



No. 6357.56

1906



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Boston Public Works Department





ENGINEERING DEPARTMENT

FORTIETH ANNUAL REPORT

OF THE

CITY ENGINEER

BOSTON

FOR THE YEAR 1906

*Compliments of*

William Jackson,

*City Engineer.*

BOSTON

MUNICIPAL PRINTING OFFICE

1907



# ENGINEERING DEPARTMENT

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Boston. Public Works Dept.  
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ENGINEERING DEPARTMENT, CITY HALL,  
BOSTON, February 1, 1907.

HON. JOHN F. FITZGERALD,

*Mayor of the City of Boston :*

SIR, — The following report of the expenses and operation of this department for the year ending January 31, 1907, is submitted :

The duties of the City Engineer include the designing and superintending of the construction of new bridges, retaining walls, city wharves, and such other public engineering works as the City Council may authorize ; the making of such survey plans, estimates, statements and descriptions, and taking such levels as the City Government or any of its departments or committees may require ; the custody of all surveys and plans relating to the laying out, locating anew, altering, widening, or discontinuing of streets, and the new engineering construction for all departments of the city. He shall be consulted on all work where the advice of a civil engineer would be of service. The office of the City Engineer was established by ordinance on October 31, 1850, and by chapter 449 of the Acts of 1895.

The following is a statement of engineering expenses from February 1, 1906, to January 31, 1907 :

Amount of department appropriation for 1906-1907 . . . . .	\$82,000 00
Amount expended for 1906-1907 . . . . .	81,978 16
Unexpended balance . . . . .	<u>\$21 84</u>

STATEMENT OF EXPENDITURES, DEPARTMENT APPROPRIATION.  
(Auditor's Report, pages 63-64.)

Salaries :

Engineer, William Jackson, . . . . .	\$6,000 00	
Assistant Engineer, draughtsmen and assistants . . . . .	66,863 21	
		<u>\$72,863 21</u>
Travelling expenses . . . . .		2,183 34
Instruments, tools and repairs . . . . .		1,557 37
Stationery . . . . .		1,054 11
Furniture and office expenses . . . . .		805 75
Automobile repairs, supplies and storage . . . . .		558 99
Printing . . . . .		529 95
Telephone service . . . . .		509 79
Horse-keeping . . . . .		492 25
Blue printing and photographing . . . . .		489 89
Binding and plans . . . . .		382 21
Washing and small supplies . . . . .		237 12
Books and papers . . . . .		230 45
Typewriting . . . . .		52 93
Messenger service . . . . .		27 55
Carting . . . . .		3 25
		<u>\$81,978 16</u>

ABOLISHMENT OF GRADE CROSSINGS.

*Blue Hill Avenue and Oakland Street.*

Expenditures from February 1, 1906, to January 31, 1907 :

Items of expenditure :

Land damages . . . . .	\$1,576 88	
Auditing . . . . .	12 60	
		<u>\$1,589 48</u>
Expended previous to 1906 . . . . .		118,233 26
		<u>\$119,822 74</u>

*Congress Street.*

Expenditures from February 1, 1906, to January 31, 1907 :

Items of expenditure :

Land taking . . . . .	\$343,000 00	
Appraisal services, etc. . . . .	305 40	
Auditing . . . . .	52 56	
		<u>\$343,357 96</u>
Expended previous to 1906 . . . . .		1,232,469 95
		<u>\$1,575,827 91</u>

*Dorchester Avenue.*

Expenditures from February 1, 1906, to January 31, 1907 :

Items of expenditure :

Land damages . . . .	\$45,000 00	
Auditing . . . . .	46 72	
	<hr/>	\$45,046 72
Expended previous to 1906 . . . . .		1,009,440 54
		<hr/>
		\$1,054,487 26
Cr. sale of land and buildings . . . . .		978 09
		<hr/>
		<u>\$1,053,509 17</u>

*Dudley Street.*

Expenditures from October 1, 1906, to January 31, 1907 :

Items of expenditure :

Land damages . . . .	\$17,225 00	
Appraisal services . . . .	515 00	
Inspection . . . . .	15 00	
	<hr/>	\$17,755 00

*East Boston.*

Expenditures from February 1, 1906, to January 31, 1907 :

Items of expenditure :

Land damages . . . .	\$69,250 00	
Paving, fences, etc. . . .	28,744 34	
Saratoga street sewer . . . .	7,394 15	
Appraisal services, etc. . . .	6,429 00	
Old Armory building . . . .	5,916 15	
Curtis street sewer . . . .	5,538 76	
Relocating water pipes . . . .	5,101 43	
Engineering . . . . .	2,666 70	
Maverick street sewer . . . .	2,118 81	
Sumner street sewer . . . .	1,508 01	
Inspection . . . . .	1,000 00	
Fire-engine house, No. 40 . . . .	480 00	
Advertising . . . . .	165 08	
Printing . . . . .	66 53	
	<hr/>	\$136,378 96
Expended previous to 1906 . . . . .		125,685 40
		<hr/>
		<u>\$262,064 36</u>

## ATLANTIC AVENUE BRIDGE.

Expenditures from February 1, 1906, to January 31, 1907 :

Items of expenditure :

Flooring . . . . .	\$34,723 28
Draw-span . . . . .	28,160 34
	<hr/>
<i>Carried forward</i> . . . . .	\$62,883 62

<i>Brought forward</i>	.	.	\$62,883	62	
Draw-pier	.	.	.	.	6,127 34
Railing	.	.	.	.	5,293 60
Paving, etc.	.	.	.	.	5,101 18
Engineering	.	.	.	.	3,262 06
Inspection	.	.	.	.	1,409 97
Terminal Co. for temporary work					875 27
Roadway gates	.	.	.	.	850 00
Draw machinery	.	.	.	.	564 27
Advertising	.	.	.	.	47 01
Printing	.	.	.	.	12 85
Paint	.	.	.	.	12 00
					<hr/>
					\$86,439 17
Expended previous to 1906	.	.	.	.	413,573 23
					<hr/>
					<u>\$500,012 40</u>

## BROOKLINE STREET BRIDGE.

Expenditures from February 1, 1906, to January 31, 1907:

Items of expenditure:

Pile and trestle work	.	.	\$48,091	24	
Steel superstructure	.	.	.	.	15,454 87
Engineering	.	.	.	.	2,851 97
Filling	.	.	.	.	2,432 30
Surfacing Essex street	.	.	.	.	2,240 75
Abutment and retaining walls	.	.	.	.	1,424 61
Inspection	.	.	.	.	1,265 78
Iron fence	.	.	.	.	485 00
Lighting	.	.	.	.	10 50
					<hr/>
					\$74,257 02
Expended previous to 1906	.	.	.	.	50,252 57
					<hr/>
					<u>\$124,509 59</u>

## NORTHERN AVENUE BRIDGE.

Expenditures from February 1, 1906, to January 31, 1907:

Items of expenditure:

Land taking	.	.	.	.	\$189,798 67
Piers and abutment	.	.	.	.	108,747 47
Engineering	.	.	.	.	8,283 96
Inspection	.	.	.	.	3,121 94
Paving, fences, etc.	.	.	.	.	2,432 50
Rent of office	.	.	.	.	417 15
Printing	.	.	.	.	67 77
Telephone	.	.	.	.	50 00
Advertising	.	.	.	.	36 45
					<hr/>
					\$312,955 91
Expended previous to 1906	.	.	.	.	26,138 08
					<hr/>
					<u>\$339,093 99</u>

## BRIDGES.

The annual inspection of all highway and foot bridges has been made, together with special examinations when notified by the Superintendent of Bridges of the progress of repairs.

The management of all the bridges and draws between Cambridge and Boston, by the Acts of 1898, chapter 467, is vested in a board of two commissioners, which has charge of the following seven bridges, viz.: Brookline street, Cambridge street, Harvard, North Harvard street, Prison Point, West Boston, and Western avenue to Cambridge; one-half the cost of the maintenance of these bridges is paid by each of these cities.

In the list of bridges those marked with a star (\*) are over navigable waters, and are each provided with a draw, the openings of which are shown in a table in Appendix A.

## I. — BRIDGES WHOLLY SUPPORTED BY BOSTON.

Agassiz road, in the Fens.

Allston bridge, over Boston & Albany Railroad, Brighton.

Arborway bridge, in Arborway, over Stony brook.

Ashland street, over Providence Division, N. Y., N. H. & H. R.R., West Roxbury.

Athens street, over Midland Division, N. Y., N. H. & H. R.R.

Audubon road, over Boston & Albany Railroad.

Baker street, at Brook farm, West Roxbury.

Beacon street, over outlet to the Fens.

Beacon street, over Boston & Albany Railroad.

Bennington street, over Boston, Revere Beach & Lynn Railroad.

Berkeley street, over Boston & Albany Railroad.

Bernier-street foot-bridge, in the Riverway.

Berwick-park foot-bridge, over Providence Division, N. Y., N. H. & H. R.R.

Blakemore street, over Providence Division, N. Y., N. H. & H. R.R.

Bolton street, over Midland Division, N. Y., N. H. & H. R.R.

Boylston street, in the Fens.

Boylston street, over Boston & Albany Railroad.

Bridle path, over Muddy river, in the Riverway.

\* Broadway, over Fort Point channel.

Broadway, over Boston & Albany Railroad.

Brookline avenue, over Boston & Albany Railroad.

Brooks street, over Brooks street, Brighton.

Byron street, over Boston, Revere Beach & Lynn Railroad.

\* Castle Island foot-bridge, from Marine park, South Boston, to Castle Island.

Charlesgate, over Boston & Albany Railroad, in the Fens.

Charlesgate, over Ipswich street, in the Fens.

\* Charlestown bridge, from Boston to Charlestown.

\* Chelsea bridge, South, over South channel, Mystic river.

\* Chelsea street, from East Boston to Chelsea.

Circuit drive, over Scarboro' pond, in Franklin park.

Columbia road, over Old Colony Division, N. Y., N. H. & H. R.R.

Columbia road, over Shoreham street.

Columbus avenue, over Boston & Albany Railroad.

\* Commercial point, or Tenean, Dorchester.

Commonwealth avenue, in the Fens.

\* Congress street, over Fort Point channel.

Cottage Farm bridge, over Boston & Albany Railroad, Brighton.

Cottage-street foot-bridge, over flats, East Boston.

Dartmouth street, over Boston & Albany Railroad and Providence Division, N. Y., N. H. & H. R.R.

\* Dorchester avenue, over Fort Point channel.

\* Dover street, over Fort Point channel.

Ellicott arch, in Franklin park.

Elmwood street, over Stony brook.

Fen bridge, in the Fens.

Ferdinand street, over Boston & Albany Railroad.

Florence street, over Stony brook.

Forest Hills entrance, in Franklin park.

Gainsborough-street foot-bridge, over Providence Division, N. Y., N. H. & H. R.R.

Gold street, over Midland Division, N. Y., N. H. & H. R.R.

Huntington avenue, over Boston & Albany Railroad.

Hyde Park avenue, over Stony brook.

Ipswich street, over Waterway, in the Fens.

Irrington-street foot-bridge, over Providence Division, N. Y., N. H. & H. R.R.

Keyes street, over Stony brook.

\* L street, over Reserved channel, South Boston.

Leverett-pond foot-bridge, in Leverett park.

Linden Park street, over Stony brook.

\* Malden bridge, from Charlestown to Everett.

Massachusetts avenue, over Boston & Albany Railroad.

Massachusetts avenue, over Providence Division, N. Y., N. H. & H. R.R.

\* Meridian street, from East Boston to Chelsea.

\* Mount Washington avenue, over Fort Point channel.

Neptune road, over Boston, Revere Beach & Lynn Railroad.  
 Newton street, over Providence Division, N. Y., N. H. & H.  
 R.R.

Public Garden foot-bridge.

Scarboro'-pond foot-bridge, in Franklin park.

Shawmut avenue, over Boston & Albany Railroad and Providence Division, N. Y., N. H. & H. R.R.

Southampton street, east of Midland Division, N. Y., N. H. & H. R.R.

Southampton street, west of Midland Division, N. Y., N. H. & H. R.R.

Summer street, over A street.

Summer street, over B street.

Summer street, over C street.

\* Summer street, over Fort Point channel.

\* Warren bridge, Boston to Charlestown.

West Rutland-square foot-bridge, over Providence Division, N. Y., N. H. & H. R.R.

Williams street, over Stony brook.

Winthrop, from Breed's Island to Winthrop.

Wood Island park foot-bridge, over Boston, Revere Beach & Lynn Railroad.

## II. — BRIDGES OF WHICH BOSTON SUPPORTS THE PART WITHIN ITS LIMITS.

Bellevue street, over Muddy river, in the Riverway.

Bernier-street foot-bridge, over Muddy river, in the Riverway.

Brookline avenue, over Muddy river, in the Riverway.

Central avenue, from Dorchester to Milton.

\* Chelsea bridge, North, over North channel, Mystic river.

\* Granite bridge, from Dorchester to Milton.

Huntington avenue, over Muddy river, in the Riverway.

Longwood avenue, over Muddy river, in the Riverway, and over Boston & Albany Railroad.

Milton bridge, from Dorchester to Milton.

\* Neponset bridge, from Dorchester to Quincy.

\* North Beacon street, from Brighton to Watertown.

Spring street, from West Roxbury to Dedham.

\* Western avenue, from Brighton to Watertown.

## III. — BRIDGES OF WHICH BOSTON PAYS A PART OF THE COST OF MAINTENANCE.

Albany street, over Boston & Albany Railroad freight tracks.

Ashmont street and Dorchester avenue, over Old Colony Division, N. Y., N. H. & H. R.R.

Bennington street, over Boston & Albany Railroad, East Boston.

Blue Hill avenue, over Midland Division, N. Y., N. H. & H. R.R., Mattapan.

Boston street, over Old Colony Division, N. Y., N. H. & H. R.R.

Brookline street, from Brighton to Cambridge.

Cambridge bridge, from Boston to Cambridge.

\* Cambridge street, from Brighton to Cambridge.

Cambridge street, over Boston & Maine and Boston & Albany Railroads.

Chelsea bridge, over Boston & Maine Railroad.

Curtis street, over Boston & Albany Railroad, East Boston.

Dorchester avenue, over Old Colony Division, N. Y., N. H. & H. R.R.

Everett street, over Boston & Albany Railroad, Brighton.

\* Harvard bridge, from Boston to Cambridge.

Harvard street, over Midland Division, N. Y., N. H. & H. R.R., Dorchester.

Maverick street, over Boston & Albany Railroad, East Boston.

Norfolk street, over Midland Division, N. Y., N. H. & H. R.R., near Dorchester station, Dorchester.

Norfolk street, over Midland Division, N. Y., N. H. & H. R.R., near Mattapan station, Dorchester.

\* North Harvard street, from Brighton to Cambridge.

Oakland street, over Midland Division, N. Y., N. H. & H. R.R., Mattapan.

Perkins street, over Boston & Maine and Boston & Albany Railroads.

\* Prison Point bridge, Charlestown to Cambridge.

Southampton street, over Old Colony Division, N. Y., N. H. & H. R.R.

Summer street, over freight tracks, N. Y., N. H. & H. R.R.

\* West Boston temporary bridge, from Boston to Cambridge.

West Fourth street, over Old Colony Division, N. Y., N. H. & H. R.R.

\* Western avenue, from Brighton to Cambridge.

#### IV.—BRIDGES SUPPORTED BY RAILROAD CORPORATIONS.

##### *1st. — Boston & Albany R.R.*

Albany street, over passenger tracks.

Harrison avenue.

Market street, Brighton.

Tremont street.

Washington street.



*2d. — Boston & Maine and Boston & Albany Railroads.*

Main street.  
Mystic avenue.

*3d. — Boston & Maine R.R., Eastern Division.*

Wauwatosa avenue, East Boston.

*4th. — Boston, Revere Beach & Lynn R.R.*

Everett street.

*5th. — New York, New Haven & Hartford R.R., Midland Division.*

Broadway.  
Dorchester avenue.  
Fifth street.  
Fourth street.  
Morton street, Dorchester.  
Second street.  
Silver street.  
Sixth street.  
Third street.  
Washington street, Dorchester.

*6th. — New York, New Haven & Hartford R.R., Old Colony Division.*

Adams street.  
Cedar Grove Cemetery.  
Freeport street.  
Medway street.  
Savin Hill avenue.

*7th. — New York, New Haven & Hartford R.R., Providence Division.*

Albany street.  
Baker street, West Roxbury.  
Beech street, West Roxbury.  
Bellevue street, West Roxbury.  
Berkeley street.  
Broadway.  
Canterbury street, West Roxbury.  
Castle square.

Centre and Mt. Vernon streets, West Roxbury.  
 Columbus avenue.  
 Dartmouth street.  
 Dudley avenue, West Roxbury.  
 Gardner street, West Roxbury.  
 Harrison avenue.  
 Park street, West Roxbury.  
 Washington street.

V. — BRIDGE SUPPORTED BY THE METROPOLITAN PARK  
 COMMISSION.

Mattapan bridge, Dorchester to Milton.

VI. — BRIDGE SUPPORTED BY THE CHARLES RIVER BASIN  
 COMMISSION.

\* Craigie temporary bridge.

RECAPITULATION OF BRIDGES.

I.	Number wholly supported by Boston . . . . .	78
II.	Number of which Boston supports that part within its limits . . . . .	13
III.	Number of which Boston pays a part of the cost of maintenance . . . . .	27
IV.	Number supported by railroad corporations:	
1.	Boston & Albany Railroad . . . . .	5
2.	Boston & Maine and Boston & Albany Railroads, . . . . .	2
3.	Boston & Maine, Eastern Division . . . . .	1
4.	Boston, Revere Beach & Lynn Railroad . . . . .	1
5.	N. Y., N. H. & H. R.R., Midland Division . . . . .	10
6.	N. Y., N. H. & H. R.R., Old Colony Division . . . . .	5
7.	N. Y., N. H. & H. R.R., Providence Division . . . . .	16
V.	Number supported by the Metropolitan Park Commission . . . . .	1
VI.	Number supported by Charles River Basin Commission . . . . .	1
	Total . . . . .	<u>160</u>

(*Agassiz-road Bridge (in the Fens).*)

This bridge was built in 1887, of brick and stone masonry. It is maintained by the Park Department, and is in good condition.

*Albany-street Bridge (over the Boston & Albany R.R. Freight Tracks).*

The original structure was built in 1856-57, and rebuilt in 1867-68. The present bridge was built in 1886-87, and is maintained in part by the City of Boston and in part by the Boston & Albany Railroad. The railings are in very poor condition and should be rebuilt at once. The boxing around the bottom chords should be renewed. The sidewalk planking has worn thin and the stringers are poor. It is recommended that the sidewalks be rebuilt.

*Allston Bridge (over the Boston & Albany R.R., Brighton).*

This is an iron bridge, built in 1892. During the year the iron work under the floor has been cleaned and painted, The stringers and lower planking were renewed at the same time. The iron work above the floor should be painted.

*Arborway Bridge (over Stony brook, in Arborway, near Forest Hills Station).*

This is a wooden bridge resting on abutments of vulcanized spruce piles. The stringers and under-planking are of vulcanized hard pine. It was built in 1893, and is maintained by the Park Department. Some of the piles at the surface of the ground are badly decayed and the tops of stringers are poor.

*Ashland-street Bridge (over Providence Division, New York, New Haven & Hartford R.R., West Roxbury).*

The present structure is of iron, and was built in 1875. With the exception of one of the fences, which should be rebuilt this season, the bridge is in good condition.

*Ashmont-street and Dorchester-avenue Bridge (over Old Colony Division, New York, New Haven & Hartford R.R.).*

This is a wooden bridge formerly maintained by the railroad company. It was lengthened on the Boston side in 1895, and now the city maintains 75 feet of the northerly part. The sidewalk planking, wheel-guard and some of the deck planking should be renewed.

*Athens-street Bridge (over Midland Division, New York, New Haven & Hartford R.R.).*

This is an iron bridge, built in 1874. The sidewalk and deck planking should be renewed and the bridge painted.

*Audubon-road Bridge (over the Boston & Albany R.R.).*

This is a steel plate girder bridge, built in 1893-94, and is maintained by the Park Department. The sidewalk planking is in poor condition and should be renewed, and some new stringers put in. The ironwork over the main tracks and both fascias should be painted.

*Baker-street (at Brook Farm, West Roxbury).*

This is a wooden stringer bridge of about 15 feet span. It has been sheathed during the year and is now in fair condition. This is the first year that this structure has been classed as a bridge in the reports of this department.

*Beacon-street Bridge (over Outlet of the Fens).*

This bridge was built in 1880-81, and had, up to 1901, a wooden floor for the roadway. At the latter date a new floor was built, consisting of 18-inch steel I-beams encased in Portland cement concrete, and the roadway was paved with hard-pine blocks, treated by the creosote-resinate process. The bridge is now in good condition, except the northerly sidewalk, which should be repaired.

*Beacon-street Bridge (over Boston & Albany R.R.).*

This is an iron bridge, built in 1884-85, widened in 1887-88, and the central roadway further widened in 1890 for the convenience and at the expense of the street railway company. Attention has been called for several years to the condition of this bridge, especially below the flooring. The floor beams are very rusty and the stringers and lower planking are more or less decayed so that the strength of the flooring is materially reduced. The recommendation made in last year's report is now repeated, "that the flooring of this bridge be renewed and the ironwork thoroughly cleaned and painted."

*Bellevue-street Bridge (over Muddy River in Riverway).*

This is a segmental masonry arch of 44 feet span and 15 feet rise. It was built in 1893 by the Park Departments of Boston and Brookline, and is maintained jointly by them.

*Bennington-street Bridge (over Boston & Albany R.R., East Boston).*

This is a new steel plate girder bridge built by the railroad company last year under the decree of the Superior

Court abolishing the grade crossings in East Boston. The surface of the bridge is maintained by the city, and the rest of the structure by the railroad company. [See page 100.]

*Bennington-street Bridge (over Boston, Revere Beach & Lynn R.R.).*

This bridge is made up of two independent parts; the old part is of iron, built in 1889; the new part is of steel, built in 1902. The bridge should be painted and the boarding around the trusses should be refastened; otherwise the bridge is in good condition.

*Berkeley-street Bridge (over Boston & Albany R.R. and Providence Division, N.Y., N.H. & H. R.R.).*

The bridge over the tracks of the Boston & Albany Railroad, which is maintained by the city, was originally built for the Boston Water Power Company, and accepted by the city in 1869. The present structure over these tracks is a through plate girder bridge, and was built in 1891. The lower planking of both roadways, except under the street railway tracks, has been renewed and the bridge is now in good condition.

The bridge over the tracks of the N. Y., N. H. & H. R.R. was built in 1899, and is maintained by that company.

*Bernier-street Foot-bridge (over Bridle Path in Riverway).*

This is a semi-circular masonry arch of 38 feet 4 inches span. It was built in 1893, and is maintained by the Park Department.

*Bernier-street Foot-bridge (over Muddy River).*

This is a segmental masonry arch of 52 feet span and 14 feet rise. It was built in 1893 by the Park Departments of Boston and Brookline, and is maintained jointly by them.

*Berwick-park Foot-bridge (over Providence Division, New York, New Haven & Hartford R.R.).*

This is an iron foot-bridge, erected in 1894. The iron stairs and piers were new, but the trusses and floor-beams were those built for Franklin street in 1883. The planking is thin and should be renewed and the stairways painted.

*Blakemore-street Bridge (over Providence Division, New York, New Haven & Hartford R.R.).*

This is an iron bridge, built in 1881-82. New lower planking should be put in and the whole bridge should be

painted, as some of the metal is very thin and is now rusting badly.

*Blue Hill-avenue Bridge (over Midland Division, New York, New Haven & Hartford R.R.).*

This is a steel bridge built by the New York, New Haven & Hartford R.R. in 1903, and is over the railroad location. The surface of the bridge is maintained by the city, the remainder by the railroad company. The steel work is very rusty in places, and the bridge should be painted. Otherwise it is in good condition.

*Bolton-street Bridge (over Midland Division, New York, New Haven & Hartford R.R.).*

This is a wooden bridge, originally built in 1889 and rebuilt in 1905. It is in good condition.

*Boston-street Bridge (over Old Colony Division, New York, New Haven & Hartford R.R.).*

This is a plate girder bridge, built in 1900, in connection with the abolishment of the grade crossing on Dorchester avenue. The surface of the bridge is maintained by the city, and the rest of the structure by the railroad company. The bridge has been painted; the south sidewalk needs small repairs; otherwise the bridge is in good condition.

*Boylston-street Arch Bridge (in the Fens).*

This is a stone arch bridge, built in 1881. It is in good condition, with exception of coping, which should be repointed.

*Boylston-street Bridge (over Boston & Albany R.R.).*

This is an iron bridge, built in 1886-88. An examination of this bridge made last July in connection with a proposed strengthening so as to safely carry the heavier cars which the street railway company desires to send over the bridge, showed that the portions below the flooring were badly rusted, and that the cross section of some of the pieces was considerably reduced in area. As the street railway company intends the coming season to strengthen the bridge by the addition of new trusses and floor beams, so as to carry its heavier cars, an opportunity will be afforded to carefully examine the whole structure and determine if any repairs are necessary at the present time.

*Bridle-path Bridge (over Muddy River in the Riverway).*

This is a masonry bridge of three arches; the central arch is elliptical in form, with a span of 30 feet and a rise of 9 feet 6 inches; the side arches are semi-circular, 15 feet in diameter. It was built in 1894, and is maintained by the Park Department. It is in good condition.

*Broadway Bridge (over Fort Point Channel).*

The draw was built in 1874-75 and the supports for the draw landings are iron columns. The rest of the bridge is built of steel on masonry piers, and was rebuilt in 1901-04. The steel work over Foundry street should be painted. Some of the track and wheels below the draw need renewal and the waterway needs repairing; otherwise the bridge is in good condition.

*Broadway Bridge (over Boston & Albany R.R.).*

The old bridge, built in 1880-81, was replaced in 1900 by the present bridge. The whole bridge should be cleaned and painted and new sidewalk planking laid.

*Brookline-avenue Bridge (over Boston & Albany R.R.).*

This is an iron bridge, built in 1884. The flooring has been entirely renewed and the whole bridge painted. It is now in good condition.

*Brookline-avenue Bridge (over Muddy River in the Riverway).*

This is a semi-circular masonry arch of 15 feet span. It was built in 1892 by the Park Departments of Boston and Brookline, and is maintained by them jointly.

*Brookline-street Bridge (from Brighton to Cambridge).*

This is a wooden trestle bridge, built on a pile foundation in 1906, and is in care of the Commissioners for Boston and Cambridge Bridges, and the city pays one-half the cost of maintenance.

(See page 96.)

*Brooks-street Bridge (near Faneuil Station, Brighton).*

This is a steel bridge, with a concrete and asphalt floor, built in 1902. The bridge should be painted; otherwise it is in good condition.



*Byron-street Bridge (over Boston, Revere Beach & Lynn R.R.).*

This is a wooden bridge, built in 1889 ; it needs a general overhauling.

*Cambridge Bridge (from Boston to Cambridge).*

This bridge was partially opened to travel August 12, 1906, and all travel over the temporary West Boston bridge was stopped November 27 and turned over this bridge. It is not yet finished.

*Cambridge-street Bridge (from Brighton to Cambridge).*

This is a wooden pile bridge with a wooden leaf draw. It was rebuilt in 1884 ; the draw was rebuilt in 1890. The bridge is in the care of the Commissioners for the Boston and Cambridge Bridges, and the city pays one-half the cost of maintenance. The Boston side of the bridge is in poor condition, and needs extensive repairing. The waterways need replanking, especially under the Boston leaf of the draw, where the piling needs additional securing ; some of the piles are in poor condition, and need renewal ; the deck planking on the Boston side has been repaired in spots many times, and should be entirely renewed and additional stringers added ; one draw-arm needs renewal ; the fender-guards need repairing. The support to the draw tender's house needs strengthening, and a boat should be provided. The channel-cap on the Cambridge side is in poor condition.

*Cambridge-street Bridge (over Boston & Maine and Boston & Albany Railroads, Charlestown).*

This is a steel bridge of four spans, built in 1901 by the Boston & Maine Railroad. The surface is maintained by the city, the remainder by the railroad company. The bridge should be painted and some of the sidewalk planking needs renewal.

*Castle Island Foot-bridge (from Marine Park to Castle Island).*

This is a temporary foot-bridge, built in 1892, and is maintained by the Park Department. It connects the Marine Park with Castle Island, and is furnished with a draw, so that if desired by the United States authorities the island can be cut off from the mainland. A small amount of



replanking has been done. Repairs are needed on the planking, and the bridge should be painted; otherwise the bridge is in fair condition.

*Central-avenue Bridge (over Neponset River, Dorchester Lower Mills).*

This is an iron bridge, and was built in 1876. The city maintains the part within its limits. The sidewalk planking needs renewal.

*Charlesgate Bridge (over Boston & Albany R.R., in the Fens).*

This is an iron bridge, built in 1881-82, and is maintained by the Park Department. The railings need painting and some slight repairing, should be done at the end of one of them.

*Charlesgate Bridge (over Ipswich street, in the Fens).*

This is a deck plate girder bridge with a buckle plate floor. The roadway is paved with asphalt and the sidewalks with artificial stone. The bridge should be painted and the ornamental railings repaired.

*Charlestown Bridge (from Boston to Charlestown).*

This bridge was opened to public travel November 27, 1899, and superseded the old Charles River bridge, which was built in 1785-86.

The present bridge over the river consists of ten spans of the deck plate type, each 85 feet long, and a swing or turntable draw 240 feet 6 inches long.

The bridges over Water street and over the railroad tracks each consist of two spans of steel I-beams, with brick arches turned between the beams. The railings need painting at once, and the entire structure should be painted during the coming year.

*Chelsea Bridge (over Boston & Maine R.R.).*

This is an iron bridge, built by the Boston & Maine Railroad Company in 1894, and is over the railroad location. The surface of the bridge is maintained by the city, the remainder by the railroad company. The wheel-guard is too low and narrow; the fences and sidewalk planking need repairing, and the bridge needs painting; some of the track stringers begin to show decay. Otherwise the bridge is in good condition.

*Chelsea Bridge, North (over North Channel, Mystic River).*

The city maintains the part within its limits. The original structure was built in 1802-03. The piles under the main bridge were driven in 1880. The upper part of the bridge, the draw and draw foundations were built in 1895. The draw-way was widened to 60 feet in 1900, the draw foundation being enlarged, the draw lengthened, and the draw piers built; the iron fence has been painted, and ordinary repairs have been made; the tops of some of the old piles have begun to decay and should be spliced; the older fender-guards are in poor condition; some of the sidewalk planking needs renewal; the fence and waterway need repairing; the track stringers have begun to decay and will need repairing next year.

*Chelsea Bridge, South (over South Channel, Mystic River).*

This is a pile bridge with an iron draw. The original bridge was built in 1802-03. The piles of the present bridge were driven and the draw was built in 1877. That part of the bridge above the girder caps was rebuilt at a higher grade, and the draw was raised in 1895. All the sidewalks have been replanked; the roadway on the draw has been redecked with 4-inch spruce; a few stringers were renewed, and the draw pier and wharf have had their top work renewed; the ironwork below the decking was painted; repairs are needed on the track. Otherwise the bridge is in good condition.

(See page 100.)

*Chelsea-street Bridge (from East Boston to Chelsea).*

This is a wooden pile bridge, with an iron swing draw. The original bridge was built in 1834; was rebuilt in 1848, 1873, and again in 1894-95. On May 31, 1906, the Boston Elevated Railway Company made a contract with William L. Miller for strengthening the floor of this bridge. The old planking, wheel-guards and some stringers were removed, and four lines of new 10-inch by 14-inch hard-pine stringers were laid the full length of the fixed part of the bridge; upon these was laid a new 4-inch hard-pine deck and a new hard-pine wheel-guard on one side, and 2-inch spruce sheathing. The draw was stripped of woodwork, the floor beams removed and replaced with new beams, and an entire new floor, stringers, wheel-guard and sidewalk put in. The contract for the work on the draw was made with the

G. W. & F. Smith Iron Company. The work was paid for by the Boston Elevated Railway Company.

The planking on the pier and on the sidewalk of the main bridge should be renewed.

*Circuit-drive Bridge (over Scarboro' Pond, in Franklin Park).*

This is an elliptical masonry arch of 30 feet span and 6 feet 3 inches rise. It was built in 1893, and is maintained by the Park Department.

*Columbia-road Bridge (over Old Colony Division, New York, New Haven & Hartford R.R.).*

This is a deck plate girder bridge of two equal spans, one over the tracks of the N. Y., N. H. & H. R.R., and the other over Old Colony avenue, and was built in 1902. The roadway is paved with Canton brick, cement grout joints, and laid on hard pine planking. The sidewalks have an asphalt wearing surface, and although they were laid only three years ago, they are now badly cracked and should be put in good condition. The railing needs painting.

*Columbia-road Bridge (over Shoreham street).*

This bridge was built in 1902. It is a two-span steel-beam structure, with brick and concrete arches turned between the beams; the roadway is paved with Canton brick, laid with cement grout joints. The sidewalk is of artificial stone. The bridge should be painted; otherwise it is in good condition.

*Columbus-avenue Bridges (over Boston & Albany R.R., and Providence Division, New York, New Haven & Hartford R.R.).*

The bridge over the Boston & Albany Railroad was built in 1876-77, and is maintained by the city. In 1899 the bridge was shortened 11 feet at its south end, and a pier built in place of the old south abutment.

The sidewalk planking should be renewed and the roadway sheathed.

The bridge over the tracks of the N. Y., N. H. & H. R.R. was built in 1899, and is maintained by that company.

*Commercial Point or Tenean Bridge (Dorchester).*

This is a wooden pile bridge with a wooden leaf draw. The piles were driven in 1875. The draw and upper part

of the bridge was rebuilt in 1901. The planking should be renewed; otherwise the bridge is in good condition.

*Commonwealth-avenue Bridge (in the Fens).*

This is an iron bridge, and was built in 1881-82. It is in good condition, with the exception of the sidewalk planking and sheathing, which should be renewed. It is maintained by the Park Department.

*Congress-street Bridge (over Fort Point Channel).*

This is a wooden pile bridge, with an iron turn-table draw, on a stone foundation, and was built in 1874-75.

The paving and roadway planking on the main bridge are in poor condition. The roadway planking should be renewed and some of the stringers should be replaced by new ones; the draw pier needs extensive repairing. In November, 1906, some of the planking on the South Boston side of the channel was removed to make a wider channelway for the passage of the steamship "Induna," and later the face of the channelway was ribboned; the steamship was over 50 feet wide and the work was done without expense to the city.

*Cottage Farm Bridge (over Boston & Albany R.R., Brighton).*

The present bridge was built in 1895-96. With the exception of the plate girders on the outside lines of the bridge, and some special construction under the sidewalks, the superstructure is composed of 20-inch steel beams, filled between with brick arches and Portland cement concrete, on which is a wearing surface of Sicilian rock asphalt. The bridge is in good condition.

*Cottage-street Foot-bridge (over flats, East Boston).*

This is a wooden pile bridge, built in 1889, for foot travel. It was extensively repaired in 1905. Some of the planking needs renewal.

*Craigie Temporary Bridge.*

This is a wooden pile bridge built by the Charles River Basin Commission to accommodate travel during the construction of the Charles River Dam, which is to be built on the site of old Craigie Bridge. It was opened to travel July 2, 1905. It is in the care of the commission and is in good condition.

*Curtis-street Bridge (over Boston & Albany R.R., East Boston).*

This is a new through steel plate girder bridge, built by the railroad company last year, under the decree of the Superior Court abolishing the grade crossings in East Boston. It was opened to travel December 29. The surface of the bridge is maintained by the city and the rest of the structure by the railroad company. [See page 100.]

*Dartmouth-street Bridges (over Boston & Albany R.R. and Providence Division, New York, New Haven & Hartford R.R.).*

The bridge over the Boston & Albany Railroad was built in 1878-79, and is maintained by the city. Very extensive changes were made in this bridge in 1899 by the railroad companies, necessitated by the new location of the tracks of the N. Y., N. H. & H. R.R. leading to the South Station and the abandoning of the tracks connecting this road with the B. & A. R.R. The lower planking and stringers of roadway are poor and the sidewalk planking is very thin. The whole flooring should be renewed and the iron work below it cleaned and painted. The bridge over the tracks of the N. Y., N. H. & H. R.R. was built in 1899, and is maintained by the railroad company. The asphalt surface at its northerly end is poor.

*Dorchester-avenue Bridge (over Fort Point Channel).*

This is a wooden pile bridge, with a double retractile iron draw, and was rebuilt in 1891-92. Iron stiffeners have been placed under the angle irons which support the track stringers; the draw was replanked, a few stringers were renewed, and top of floor beams were painted. The bridge should be painted, more stiffeners should be placed on the draw, repairs are needed on the sidewalk planking and curb stringers of the draw; the sills and planking on the wharves and piers need renewal, and additional supports are needed under the house; some of the spur-shores have begun to decay, and should be refitted; the irons on the waterway and the ladder should be repaired; the wreckage among the piling should be removed.

*Dorchester-avenue Bridge (over Old Colony Division, New York, New Haven & Hartford R.R.).*

This is a steel bridge, built in 1900, over the new location of the N. Y., N. H. & H. R.R. The surface of the bridge is

maintained by the city and the rest of the structure by the railroad company. The bridge has been painted. Small repairs are needed on the deck and sidewalk planking; otherwise the bridge is in good condition.

*Dover-street Bridge (over Fort Point Channel).*

This was originally a wooden pile bridge, built in 1805, rebuilt in 1858-59, and again in 1876. In 1893-94, upon the abolition of the grade crossing of the Old Colony Railroad, the present iron structure, resting on masonry piers, was built. The draw-way has been widened to 40 feet. The deck planking of the draw has been renewed with 4-inch spruce; new 14-inch by 14-inch hard-pine stringers were placed under the rails, and a few of the other stringers were renewed. The sidewalk planking on the draw needs renewal; the bridge should be painted; some new track is needed for the draw; the rack should be realigned in order that the draw may be reversed; the concrete of the draw foundation pier should be repaired and the other piers should be repointed; the planking on the wharves should be repaired.

*Ellicott-arch Bridge (in Franklin Park).*

This is a semi-circular masonry arch of 17 feet 6 inches span. It was built in 1889, and is maintained by the Park Department.

*Elmwood-street Bridge (over Stony Brook).*

This is a wooden stringer bridge of about 16 feet span. It is expected that a new masonry structure will be built during the coming year in connection with the improvements of Stony brook. This structure is classed as a bridge in the reports of this department for the first time this year.

*Everett-street Bridge (over Boston & Albany R.R., Brighton).*

This is an iron bridge, built in 1891 by the Boston & Albany Railroad Company. Some of the woodwork should be repaired, particularly the boxing around the trusses and the railings. Both the lower planking and the sidewalk planking are poor, and should be renewed.

*Fen Bridge (in the Fens).*

This bridge was built in 1891-93. It is in good condition.

*Ferdinand-street Bridge (over Boston & Albany R.R.).*

This is an iron bridge built in 1892. In 1899 this bridge was shortened about three feet at its southerly end, and the old south abutment replaced by a brick pier. The bridge is in good condition, except the sidewalks. New sidewalk stringers should be put in where necessary, and both walks replanked.

*Florence-street Bridge (over Stony Brook).*

This is a wooden stringer bridge of about 15 feet span, and is in fair condition. This is the first year that this structure has been classed as a bridge in the reports of the department.

*Forest Hills Entrance Bridge (in Franklin Park).*

This bridge was built in 1894-95. It is maintained by the Park Department, and is in good condition.

*Gainsborough-street Foot-bridge (over Providence Division, New York, New Haven & Hartford R.R.).*

This is an iron foot-bridge, erected in 1904, and is now in a good condition.

*Gold-street Bridge (over Midland Division, New York, New Haven & Hartford R.R.).*

This bridge was built in 1895, replacing a foot-bridge which was built in 1890; the sidewalk planking should be renewed; the bridge should be painted, and the walls need some pointing; otherwise the bridge is in good condition.

*Granite Bridge (from Dorchester to Milton).*

This is a wooden pile bridge, with a wooden leaf draw. The city maintains the part within its limits. The bridge was originally built in 1837. It is in poor condition, and should be rebuilt; the abutment should be repaired; the piles are much worn; several of the stringers show considerable rot; the sidewalk plank and the planking on the draw need renewal, and the tops and sides of the piers are very poor.

*Harvard Bridge (from Boston to Cambridge).*

This is an iron bridge with an iron turn-table draw, and was built in 1887-91. This bridge is in the care of two



commissioners, one appointed from Boston and one from Cambridge, and the expense of maintenance is borne equally by each city.

The roadway of the fixed spans was repaired in 1901-02 and a wooden block paving laid. In 1905 the asphalt walks were replaced by 3-inch hard pine and the railings were painted. The roadway stringers on the draw-span and the lower planking are in very bad condition. The stringers are those put in when the bridge was built, and only a small amount of patching has been done to the lower planking. Attention has been called to the condition of the floor for several years, and now it has reached a state where it is not safe for the heavy loads which pass over it. It is recommended that a new deck be put in at once. The draw pier should be replanked and other repairs made to the pier and fenders.

*Harvard-street Bridge (over Midland Division, New York, New Haven & Hartford R.R., Dorchester).*

This is a steel bridge, built in 1904 under an agreement between the city and the New York, New Haven & Hartford Railroad Company. It needs painting in part, and is otherwise in good condition.

*Huntington-avenue Bridge (over Boston & Albany R.R.).*

This is an iron bridge. It was built in 1872, and in 1876-77 the abutments were rebuilt and the bridge widened by the addition of two new girders. In 1896, in consequence of changes in the grade of the avenue, the floor was entirely rebuilt and new girders added for supporting the water pipes. This is one of the oldest bridges in the city, and its condition is such that it cannot longer be considered safe for the heavy traffic that is liable to come upon it. A new bridge should be built with as little delay as possible.

*Huntington-avenue Bridge (over Muddy River).*

This is a semi-circular masonry arch of 15 feet span. It was built in 1893, and is maintained by the Park Departments of Boston and Brookline.

*Hyde Park-avenue Bridge (over Stony Brook).*

This is a stringer bridge of 19 feet 9 inches clear span measured at right angles, and was built in 1904. The roadway stringers are hard pine timber; those under street rail-



way tracks are 16 inches by 20 inches, and all others are 8 inches by 16 inches. The lower planking of roadway is 4-inch hard pine and the wearing surface is 2-inch spruce. The sidewalk planking is 3-inch spruce. The bridge is in good condition.

*Ipswich-street Bridge (over Waterway in the Fens).*

The bridge was built in 1898, and is in good condition, except the railings, which should be painted.

*Irvington-street Foot-bridge (over Providence Division, New York, New Haven & Hartford R.R.).*

This is an iron foot-bridge, and was built in 1892. The planking is thin, but otherwise the bridge is in good condition.

*Keyes-street Bridge (over Stony Brook).*

This is a wooden stringer bridge of about 15 feet span. It is in fair condition. This is the first year that this structure has been classed as a bridge in the reports of this department.

*L-street Bridge (over Reserved Channel, South Boston).*

This is a wooden pile bridge with an iron retractile draw. It was built in 1892. Some of the piling in the fender-guard and under the 6-foot walk needs renewal; one of the side-walks on the draw should be replanked; the bridge should be painted; the planking on the waterways, piers and wharves needs repairing, and additional stringers are needed near the engine-house.

*Leverett Pond Foot-bridge (in Leverett Park).*

This is a segmental masonry arch of 24 feet span and 5 feet 5 inches rise. It was built in 1894, and is maintained by the Park Department.

*Linden Park-street Bridge (over Stony Brook).*

This is a wooden bridge built in 1886, and at that time was considered a "temporary" structure. The timber in the trusses and floor beams is now badly decayed, and the bridge cannot now be considered safe for heavy loads. A new bridge should be built at once if the channel is to be maintained.

*Longwood-avenue Bridge (over Muddy River and Boston & Albany R.R.).*

The original wooden structure was built in 1857, and rebuilt in 1877. The present masonry arches were erected in 1899 by the Park Departments of Boston and Brookline, and are maintained jointly by them.

*Malden Bridge (from Charlestown to Everett).*

This a wooden pile bridge with a retractile steel draw, and was rebuilt in 1900-01. Ordinary repairs have been made; the planking on the draw needs repairing, and about 50 feet of fence should be built on the wing of the abutment at the Charlestown end. The lower part of draw and track foundation needs painting, and some of the paving at Everett end of bridge needs attention. The bridge is in good condition.

*Massachusetts-avenue Bridge (over Boston & Albany R.R.).*

This is an iron bridge, built in 1876. It was thoroughly repaired in 1893, with the exception of the wooden fences. These are now in very poor condition and should be rebuilt. The lower planking is poor and some of the stringers should be renewed.

*Massachusetts-avenue Bridge (over Providence Division, New York, New Haven & Hartford R.R.).*

This is an iron bridge, built in 1876. The woodwork was renewed in 1901, and the ironwork cleaned and painted. The planking on both sidewalks is very thin and should be renewed and the whole bridge painted. The bridge is now being strengthened by the Boston Elevated Railway Company in order to carry safely the heavy cars in service at the present time.

*Mattapan Bridge (from Dorchester to Milton).*

This is a three-arch bridge of Melan construction, with granite facing. It was built in 1902 by the Metropolitan Park Commission, and is maintained by it. The arches are semi-circular, two spans being 14 feet and one 50 feet; the bridge has one 56-foot roadway and two 12-foot sidewalks. It is in good condition.

*Maverick-street Bridge (over the Boston & Albany R.R., East Boston).*

This is a new through steel-plate girder bridge, built by the railroad company last year under the decree of the Superior Court abolishing the grade crossings in East Boston. The bridge was completed January 24, 1907, but it has not yet been opened. The surface of the bridge is maintained by the city and the rest of the structure by the railroad company. [See page 100.]

*Meridian-street Bridge (from East Boston to Chelsea).*

This is a wooden pile bridge, with a wooden turn-table draw on a pile foundation. The original structure was built in 1858. It was rebuilt soon afterwards, and was widened and rebuilt in 1884, excepting the draw, which was built in 1875-76. The chords of the draw were rebuilt in 1896.

On May 25, 1906, the Boston Elevated Railway Company made a contract with George T. Rendle for strengthening the floor of this bridge, in order that heavier cars might be run across it. The work consisted of putting in new 6-inch by 14-inch and 10-inch by 14-inch stringers, with bolsters and wedges, for the entire length of the main bridge under the tracks, putting additional posts above old caps, furnishing and laying new planking and paving and driving some new oak piles at the draw landing and in the main bridge. Some of the old piles were spliced and new caps and posts were added where the piles and caps were poor. The city paid a part of the cost of the work.

Before the heavier cars are used on this bridge it will be necessary to repair and strengthen draw, and this work will be done during the year, the railroad company to pay for the additional strengthening; the roadway and wharf planking needs renewal in part; the fencing should be repaired and painted; the waterways and pier are in poor condition and should be extensively repaired.

*Milton Bridge (from Dorchester to Milton).*

The city maintains the part within its limits. The original structure is very old. It was widened in 1871-72. The older part of this bridge was built of stone, and the widening is an iron structure on stone columns. The westerly sidewalk was rebuilt on new iron girders and floor beams in 1900. The bridge should be painted, and the sidewalk planking on the down-stream side of the bridge should be

renewed in part, the fascia needs repairing and one of the capstones over the first waterway is cracked.

*Mt. Washington-avenue Bridge (over Fort Point Channel).*

This is a wooden pile bridge with an iron draw. It was built in 1854, and rebuilt in 1870-71. It has been closed to travel since the summer of 1904.

*Neponset Bridge (from Dorchester to Quincy).*

The city maintains the part within its limits. The original structure was built in 1802, and the present one in 1877; the draw and upper woodwork of the bridge and piers are in poor condition; the draw is too heavy to be handled by hand, and it should be replaced by a turn-table draw.

*Neptune-road Bridge (over Boston, Revere Beach & Lynn R.R.).*

This is an iron bridge, built in 1887-88, and is maintained by the Park Department. The roadway and sidewalk planking should be renewed, and the bridge should be painted.

*Newton-street Bridge (over Providence Division, New York, New Haven & Hartford R.R.).*

This is an iron bridge, built in 1872. It was cleaned and painted in 1902 and a new deck put on. The fences are poor, but otherwise the bridge is in fair condition for so old a structure.

*Norfolk-street Bridge (over Midland Division, New York, New Haven & Hartford R.R., near Dorchester Station).*

This is a new steel bridge, built in 1905, under an agreement between the city and the N. Y., N. H. & H. R.R. Co. The fences on the bridge should be painted and the adjoining temporary fences should be replaced by permanent ones. The bridge is in good condition.

*Norfolk-street Bridge (over Midland Division, New York, New Haven & Hartford R.R., near Mattapan Station).*

This is a through lattice girder bridge, and was built by the railroad company in 1902. The surface of the bridge is maintained by the city, and the rest of the structure by the railroad company. The sidewalk planking needs repairing; otherwise the bridge is in good condition.

*North Beacon-street Bridge (from Brighton to Watertown).*

The city maintains the part within its limits. This is a wooden pile bridge with a wooden leaf draw. The original structure was built in 1822, and the present one in 1884. Some of the piles are decaying and need reinforcing: the roadway planking needs patching, the parapet should be raised and the sidewalk bulkhead needs rebuilding.

*North Harvard-street Bridge (from Brighton to Cambridge).*

This bridge was originally built in 1662, and was rebuilt, except the piling, in 1879; the draw was built in 1891. The bridge is in the care of the Commissioners for the Boston and Cambridge Bridges; the city pays one-half the cost of maintenance. The bridge is in poor condition, and should be rebuilt and replaced by a wider structure, more in keeping with the improvements recently made in the vicinity.

*Oakland-street Bridge (over Midland Division, New York, New Haven & Hartford R.R.).*

This is a new steel plate girder bridge, built by the railroad company in 1902 under the decree of the Superior Court abolishing the grade crossing at this point. The surface of the bridge is maintained by the city and the rest of the structure by the railroad company. The bridge should be painted; otherwise it is in good condition.

*Perkins-street Foot-bridge (over the Boston & Maine R.R. and Boston & Albany R.R. in Charlestown).*

This bridge was built in 1900, and opened to travel February 2, 1901; it has two spans of wooden stringers and one of steel Pratt trusses. The surface is maintained by the city, the rest of the structure by the railroad companies. The slate steps are badly worn, and the painting is in poor condition; otherwise the bridge is in good condition.

*Prison Point Bridge (from Charlestown to Cambridge).*

This bridge was originally built in 1833, and was rebuilt in 1876-77, and the present temporary bridge was opened for travel May 6, 1903. The operation of the draw is in the care of the Commissioners for the Boston and Cambridge Bridges, the city paying one-half the cost.

This bridge is to be replaced by a new one to be built at a higher grade to abolish the numerous grade crossings, the

work to be done by the Boston & Maine Railroad. The Charlestown end of the new bridge is partially built, and a temporary wooden bridge connects the new work with the Cambridge end, and is kept in repair by the Boston & Maine Railroad.

*Public Garden Foot-bridge.*

This is an iron bridge. It was built in 1867, and is now in fair condition; some of the stringers should be renewed.

*Scarboro' Pond Foot-bridge (in Franklin Park).*

This is an elliptical masonry arch of 40 feet span and 8 feet 3 inches rise. It was built in 1893, and is maintained by the Park Department.

*Shawmut-avenue Bridge (over Boston & Albany R.R. and Providence Division, New York, New Haven & Hartford R.R.).*

The original bridge built in 1871 was removed and a new through plate girder bridge erected in 1904. The bridge is in good condition.

*Southampton-street Bridges (over South Bay Sluices).*

These are wooden bridges, built in 1875 as temporary structures; they are in very poor condition, and should be rebuilt.

*Southampton-street Bridge (over Old Colony Division, New York, New Haven & Hartford R.R.).*

This is a steel plate girder bridge, built in 1901-02. The surface is maintained by the city, the rest of the structure by the railroad company. The bridge has been painted; the deck planking needs repairing; otherwise it is in good condition.

*Spring-street Bridge (from West Roxbury to Dedham).*

This is a stone bridge. The city maintains the part within its limits. The piers and arches were pointed in 1905, and granite copings, surmounted by iron railings, built on both sides of the bridge for the length supported by the City of Boston. The part within the city's limits is now in good condition.

*Summer-street Bridges (over A, B and C streets).*

These bridges were built in connection with the abolition of the grade crossing on Congress street, and were opened to travel in 1900. The bridge over A street is a steel deck plate girder structure, with a paved roadway of granite blocks and asphalt sidewalks.

The bridge over B street is a through plate girder structure, with a paved roadway of granite blocks and asphalt sidewalks.

The bridge over C street is a two-span steel-beam structure, with brick and concrete arches turned between the beams; the roadway is paved with granite blocks and the sidewalks with asphalt.

These bridges are all in good condition now, but they should be painted without further delay if they are to be maintained so.

*Summer-street Bridge (over Fort Point Channel).*

This bridge was built in 1899-1900, in connection with the abolition of the grade crossing on Congress street. It is a four-span deck plate girder bridge, resting on masonry piers, with two retractile draws, over a 50-foot channel-way. The roadway of the fixed spans has a granite block paving, and the sidewalks have asphalt wearing surfaces. In November, 1906, some of the planking on the South Boston side of the channel was removed to make a wider channelway for the passage of the steamship "Induna," and later the face of the channelway was ribboned; the steamship was over 50 feet wide, and the work was done without expense to the city. The whole structure is in good condition, but should be painted during the year.

*Summer-street Bridge (over New York, New Haven & Hartford Railroad Freight Tracks).*

This bridge was built in 1900, in connection with the abolition of the grade crossing on Congress street, and is maintained by the city and the railroad company, the former maintaining the wearing surface and the latter maintaining the rest of the structure. It has four spans, consisting of three through trusses each, and has a granite-paved roadway and asphalt sidewalks. The railings have been painted during the year, and the bridge is in good condition, but should be painted next year.



*Warren Bridge (from Boston to Charlestown).*

This is a wooden pile bridge, with a double retractile iron draw. The present structure was built in 1883-84; some of the piles under the wharf are broken; the fender guards on the Charlestown side are in poor condition; the draw should be redecked, and repairs are needed on the deck planking of the main bridge; the planking on the waterway, wharves and in draw pit, the piling at two corners of the waterway and the tail track timber need repairing; the landing shoes should be reset; the sidewalk on the westerly side of the bridge, city end, should be extended about twenty feet, and the concrete sidewalks should be repaired; the curb on the draw should be realigned, and some of the fence posts need renewal.

*West Boston Temporary Bridge (from Boston to Cambridge).*

This bridge was built in 1898-99 to accommodate the travel using West Boston bridge till the Cambridge bridge should be built, the city paying one-half the cost of maintenance. Cambridge bridge was opened to travel in the fall of 1906, and the temporary bridge was closed November 27, 1906, and will soon be removed.

*(West Fourth-street Bridge (over Old Colony Division, New York, New Haven & Hartford R.R.).*

In 1893-94 the grade crossing of the Old Colony Railroad on this street was abolished, and an iron bridge built, extending from the end of Dover-street bridge, at the South Boston side of Fort Point channel, to the easterly line of Foundry street. The surface is maintained by the city, the rest of the structure by the railroad company. The planking around the middle trusses needs renewal, the bridge needs painting, and the sidewalk plank needs patching.

*West Rutland-square Foot-bridge (over Providence Division, New York, New Haven & Hartford R.R.).*

This is an iron foot-bridge, built in 1882. It is now in good condition, with the exception of the stair treads, which are badly worn.

*Western-avenue Bridge (from Brighton to Cambridge).*

The present bridge was built in 1879-80, and the draw in 1891. It is in the care of the Commissioners for the Boston



and Cambridge Bridges, and the city pays one-half the cost of maintenance. The Cambridge end of the bridge is in fair condition, the Boston end in rather poor condition, some of the piles and stringers needing renewal; the piers, fender guards and waterways need repairing.

*Western-avenue Bridge (Brighton to Watertown).*

The city maintains the part within its limits. This is a wooden pile bridge, with an iron draw, and was rebuilt in 1892-93. Only minor repairs have been made; the Boston end of the draw should be raised; the draw should be adjusted; and the bearings under the ends of the girders should be renewed; the planking and capsills on the piers and along the waterways should be repaired; some of the spur shores are broken and should be refitted; the sidewalk planking and deck planking on draw and main bridge needs renewal, and the bridge needs painting; some of the piles in the fender guard are in poor condition.

*Williams-street Bridge (over Stony Brook).*

This is a wooden stringer bridge of 15 feet 6 inches span. This structure will be superseded during the coming season by a concrete arch to be built in connection with the new channel of Stony brook. It has never been classed as a bridge in the reports of this department until this year.

*Winthrop Bridge (from Breed's Island to Winthrop).*

This is a pile bridge without a draw. It was originally built in 1839; it was rebuilt in 1851, and was extensively repaired in 1870 and has been repaired many times since. The abutment at the Winthrop end needs pinning up, as there has been some settlement; the bulkhead at the Boston end, some of the outside bolsters, and the roadway and sidewalk planking are in very poor condition. The waterway should be partially filled, and the bridge should be rebuilt of a shorter length.

*Wood Island Park Foot-bridge.*

This is a steel foot-bridge, built in 1898-99, and connects Prescott street, East Boston, with Wood Island Park, spanning the tracks of the Boston, Revere Beach & Lynn R.R. The walls need pointing; the bridge should be painted, as the steel work is very rusty, and the plank needs repairing.

*Bridges wholly Supported by Railroad Corporations.*

Morton-street bridge over the Midland Division, N. Y., N. H. & H. R.R., should be rebuilt. The other highway bridges maintained by the several railroad companies are in good or fair condition.

## SURVEYING DIVISION.

The work of the Surveying Division during the past year has consisted of the making of such surveys and plans as have been required by the several city departments, and giving lines and grades of public streets when requested by abutters intending to build.

Eighty petitions, requesting that catch-basins should be constructed, were reported upon to the Sewer Department.

Catch-basin locations were furnished the Sewer Department for fifty-three streets advertised to be regulated by the Superintendent of Streets.

On the request of the Sewer Department, ninety-four plans of streets showing proposed locations of future catch-basins were furnished.

For six East Boston streets locations for catch-basins, made necessary by the abolition of grade crossings, were furnished the Sewer Department.

Three hundred and twenty-five catch-basins were staked out and duplicate sketches showing locations and ties were sent to the Sewer Department.

Two hundred and two plans of underground pipes, conduits, etc., were examined, and proposed future catch-basins located for the Street Department.

Two hundred and fifty notices of contracts to lay artificial stone sidewalks were received, examined and reported upon to the Street Department. In one hundred and five cases the Street Department was notified that the existing edge-stones should be reset preparatory to the laying of artificial stone.

Twenty notices of the completion of artificial stone sidewalk repair work were received and reported upon to the Street Department.

Twenty petitions to make sidewalk openings for areas, bulkheads, etc., were received from the Street Department and reported upon.

Eighty-four requests for edgestone were examined and amount of curb required reported to the Street Department.

Grade heights were furnished Engineers and Architects for estates on nineteen streets.

Twenty-three plans of streets were made for sidewalk assessments on request of the Street Department. Data was

also furnished the Street Department for sidewalk assessment on six estates.

Estimates for grade, land and building damages, and cost of construction, were furnished the Street Commissioners on the following streets :

*Ashland street*, West Roxbury. Washington street to Harvard street (two estimates).

*Avenue Louis Pasteur*, Roxbury. Fenway to Longwood avenue (two estimates).

*Benton street*, Roxbury. Columbus avenue to Tremont street.

*Burroughs place*, Boston Proper. Extension to Eliot street.

*Burroughs place*, Boston Proper. Extension to Dix place (four estimates).

*D street*, South Boston. West Eighth street to Old Colony avenue.

*Dakota street*, Dorchester. Greenbrier street to Geneva avenue.

*Dix place*, Boston Proper. Washington street to Tremont street (four estimates).

*Dorchester street*, South Boston. Northerly corner West Broadway (two estimates).

*Dorchester street*, South Boston. Northwest side, West Broadway to Athens street.

*Dorchester street*, South Boston. Northwest side, Athens street to West Second street.

*Ellis street*, Roxbury. Extension from Thornton street to Washington street.

*Evergreen street*, Roxbury. Extension to South Huntington avenue.

*Fred street*, Charlestown. Arlington street to George street.

*Geneva avenue*, Dorchester. Columbia road to Olney street.

*Geneva avenue*, Dorchester. Olney street to Bowdoin street.

*Heath street*, Roxbury. Huntington avenue to South Huntington avenue.

*Kingsdale street*, Dorchester. Extension to Wales-place extension.

*Kinross road*, Brighton. Northwest side, Commonwealth avenue to Lanark road.

*Larkin street*, Roxbury. Hampden street to Adams street.

*Oakland street*, Dorchester. Harvard street to River street.

*Oakridge street*, Dorchester. Morton street to Codman street.

*Wendover street*, Roxbury. Dudley street to Humphreys street.

*Wentworth street*, Dorchester. Norfolk street to Armandine street.

*West Ninth street*, South Boston. D street to No. 119.

The lines and grades of the following fourteen streets, for which the Street Commissioners were petitioned for authority to open as private ways, were examined and reported upon :

- Clover street*, Dorchester. From Minot street, southerly.
- Empire-street extension*, Brighton. Mayflower street to Hooker street.
- Grampian road*, Dorchester. From Savin Hill avenue, southeasterly.
- Hatch street*, South Boston. East Eighth street to East Ninth street.
- Hollingsworth street*, Dorchester. From the Hyde Park line, northeasterly.
- Lawrence road*, Dorchester. Blue Hill avenue to Norfolk street.
- Prince street*, West Roxbury. From the Arborway, northerly.
- Randolph road*, Dorchester. River street to the New York, New Haven & Hartford Railroad.
- Rockdale street*, Dorchester. From Randolph road, northeasterly.
- Rose street*, Boston proper. Harrison avenue to Albany street.
- Rosewood street*, Dorchester. From Randolph road, northeasterly.
- Savin Hill road*, Dorchester. From Savin Hill avenue, southeasterly.
- Segel street*, Roxbury. Georgia street to Cheney street.
- Westview street*, Brighton. From Washington street, nearly opposite Atkins street, southwesterly.

Eighteen miscellaneous reports were made to the Street Department.

Four miscellaneous reports were made to the Sewer Department.

A plan was made, for the Hospital Department, of the Porter-street Primary School lot, East Boston.

A plan was made for the Trustees of the Franklin Union, showing land purchased on Berkeley street and Appleton street, Boston proper.

A plan was made for the Consumptives' Hospital Department, showing land purchased by the city on River street, Dorchester.

A plan of the burial-ground at Gallop's Island was made for the Board of Health.

Sixty-six assessment plans were made for the Street Commissioners.

Eighty-five plans and profiles, representing a total length of ten and one-half miles, showing buildings, property owners' names, established grades, areas of land taken, or to be taken, for street widenings, relocations, or to be laid out, were completed for the Street Laying-Out Department.

The following list gives the number of orders attended to for property owners, builders, and the various city departments from February 1, 1906, to February 1, 1907 :

Street lines given . . . . .	398
Street grades given . . . . .	215
Street Department . . . . .	2,505
Sewer Division . . . . .	974
Building Department . . . . .	3
Public Buildings Department . . . . .	7
Public Grounds Department . . . . .	1
Law Department . . . . .	82
Street Commissioners . . . . .	237
Engineering Department . . . . .	104
Park Department . . . . .	12
Police Department . . . . .	7
Schoolhouse Commission . . . . .	13
City Messenger Department . . . . .	2
Institutions Department . . . . .	2
Assessing Department . . . . .	3
City Hospital Department . . . . .	4
Fire Department . . . . .	1
Board of Health . . . . .	1
Mayor . . . . .	2
	<hr/>
	4,573

In connection with the Surveying Division there have been 1,347 titles examined, 1,169 deeds and 201 plans copied from the Registry of Deeds.

Thirty-two hundred and thirty-five blue prints have been made during the year.

List of plans made for sewerage works during the year ending February 1, 1907 :

#### EAST BOSTON.

*East Boston low level sewer*, from Butler avenue to Bennington street.

*Condor street*, from Glendon street easterly.

## WEST ROXBURY.

*Clifford street*, from Canterbury street to Hyde Park avenue.  
*Rosemary street*, from Rosemary street to Spalding street.  
*Stony brook*, from Green street to Forest Hills square.

## DORCHESTER.

*Dorchester high level sewer*, from River street to Morton street.  
*Franklin Park brook*, from Blue Hill avenue to Harvard street.  
*Oakland brook*, from Edgewater drive to Malta street.  
*River street*, from Riverside place easterly.

The following list gives the sewerage works staked out during the year ending February 1, 1907:

## EAST BOSTON.

*East Boston low level sewer*, from Waterloo street to Ashley avenue.  
*East Boston low level sewer*, from Ashley avenue to Leverett avenue.  
*Moore-street outlet*, along Boston, Revere Beach & Lynn Railroad.

## DORCHESTER.

*Brook-avenue place*, from Brook avenue westerly.  
*Canterbury branch*, from Morton street to Middleton avenue.  
*Mattapan street*, from Tileston avenue to Almont street.  
*Oakland brook*, from Neponset river to New York, New Haven & Hartford Railroad.  
*Tenean creek*, from Homes avenue to Longfellow street.

## WEST ROXBURY.

*Billings street*, from George street to North avenue.  
*Hewlett-street branch*, from Birch street to Belgrade avenue.  
*Neponset-avenue brook*, from Mt. Hope street to Bradstreet avenue.  
*Roslindale branch*, at Birch street.  
*Talbot-avenue high level sewer*, at Mt. Hope street.

## BRIGHTON.

*Shepard brook*, from Market street to Wool pond.

The following table gives the comparative annual amounts of paving work measured by the Surveying Division of the Engineering Department for thirteen years :

YEAR ENDING JANUARY 31.	Feet of Edge- stone Set.	Square Yards Block-stone Paving and Crossings.	Square Yards Round-stone Paving.	Square Yards Brick Paving.	Square Yards Artificial Stone.	Square Yards Coal Tar Concrete.	Square Yards Asphalt Paving.
1895.....	23,487	12,007	5,175	6,168	3,962	11,738	1,406
1896.....	129,383	60,472	32,940	68,701	12,296	183	1,297
1897.....	120,158	64,952	24,976	68,178	13,471	2,971	394
1898.....	154,718	100,414	36,658	94,003	13,599	4,019	27
1899.....	76,991	56,541	14,249	43,930	11,652	1,619	.....
1900.....	86,354	60,803	17,323	48,946	14,221	789	16
1901.....	264,982	161,428	61,356	147,863	16,541	489	2,377
1902.....	245,410	188,041	30,324	131,487	15,565	698	.....
1903.....	104,133	135,310	5,077	59,051	14,119	25	.....
1904.....	60,555	65,474	4,815	29,078	12,806	248	62
1905.....	30,899	54,455	184	16,268	9,906	196	.....
1906.....	67,114	65,132	1,264	27,544	12,981	3,551	.....
1907.....	140,878	101,118	17,390	82,044	20,135	3,716	.....

Table showing the amount of paving work measured by the Surveying Division for the year ending January 31, 1907, by districts :

DISTRICTS.	Cubic Yards Rock Excavation.	Square Yards Earth Excavation.	Linear Feet Arti- ficial Stone Curb.	Square Yards Arti- ficial Stone Side- walk.	Feet of Edgestone Set.	Square Yards Block Stone Paving and Crossings.	Square Yards Round Stone Paving.	Square Yards Brick Paving.	Square Yards Coal Tar Concrete.	Square yards Mac- adam Excavation.
City Proper...	.....	.....	.....	5,902	11,849	18,458	.....	8,883	.....	.....
South Boston..	.....	150	.....	189	23,365	10,541	3,472	17,942	.....	.....
East Boston..	.....	.....	.....	725	5,602	8,932	502	5,556	.....	.....
Charlestown..	.....	.....	.....	219	1,715	1,815	221	1,317	.....	.....
Roxbury.....	.....	6	.....	2,857	46,127	30,813	1,691	36,943	197	.....
Dorchester....	12	6	29	9,492	26,912	16,016	1,493	8,257	85	351
West Roxbury	2	455	.....	442	20,524	9,356	9,651	3,146	1,219	.....
Brighton.....	.....	.....	.....	309	4,784	5,187	360	.....	2,215	.....
Totals ....	14	617	29	20,135	140,878	101,118	17,390	82,044	3,716	351



Table showing the amount of paving work measured by the Surveying Division for the year ending January 31, 1907, by months:

MONTHS.	Cubic Yards Rock Excavation.	Square Yards Earth Excavation.	Linear Feet Artificial Stone Curb.	Square Yards Artificial Stone Sidewalk.	Feet of Edgestone Set.	Square Yards Block Stone Paving and Crossings.	Square Yards Round Stone Paving.	Square Yards Brick Paving.	Square Yards Coal Tar Concrete.	Square Yards Macadam Excavation.
<b>1906.</b>										
February.....				19						
March.....				838						
April.....				69						
May.....			29	1,144	1,165	1,494		476		
June.....				722	1,492	2,539	319	947		
July.....				3,385	24,697	16,123	57	11,635		
August.....		6		2,745	25,605	20,758	1,913	18,850	1,017	351
September.....	7	605		3,207	23,218	18,903	6,213	13,412		
October.....				1,708	30,987	15,910	5,273	20,465	21	
November.....		6		3,772	24,400	18,807	1,658	12,822	1,395	
December.....				1,988	8,183	5,456	1,957	2,688	85	
<b>1907.</b>										
January.....	7			538	1,131	1,128		740	1,198	
<b>Totals.....</b>	<b>14</b>	<b>617</b>	<b>29</b>	<b>20,135</b>	<b>140,878</b>	<b>101,118</b>	<b>17,390</b>	<b>82,044</b>	<b>3,716</b>	<b>351</b>

As a matter of record, the following list is given of the work done for the Paving Division of the Street Department from February 1, 1906, to February 1, 1907:

### BOSTON PROPER.

(North of Massachusetts avenue.)

*Albany street*, Union Park street to bend. Grade for edgestone.

*Atlantic avenue*, No. 615. Measurement of sidewalk paving.

*Beach street*, southerly corner Washington street. Line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.

*Beacon street*, at State House. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.

- Beacon street*, No. 55. Grade of edgestone tested and grade for inside for area.
- Beacon street*, No. 76. Grade of edgestone tested and grade for inside.
- Beacon street*, No. 170. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Beacon street*, No. 260. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Beacon street*, No. 334. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Beacon street*, No. 484. Measurement of sidewalk paving.
- Boylston street*, No. 29. Grade for inside and measurement of sidewalk paving.
- Boylston street*, Nos. 364 to 368. Grade of edgestone tested.
- Boylston street*, No. 407. Grade of edgestone tested and measurement of sidewalk paving.
- Boylston street*, No. 671. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Boylston street*, westerly corner Gloucester street. Measurement of sidewalk paving.
- Boylston street*, No. 795. Measurement of sidewalk paving.
- Brimmer street*, Chestnut street to Byron street. Grade of edgestone tested, line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Causeway street*, southeast corner Friend street. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Chestnut street*, southerly corner of Brimmer street. Grade of edgestone tested, line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Church street*, Tennyson street to Columbus avenue. Measurement of sidewalk paving.
- Columbus avenue*, Church street to Eliot street. Measurement of sidewalk paving.
- Columbus avenue*, No. 381. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Columbus avenue*, No. 401. Measurement of sidewalk paving.
- Columbus avenue*, No. 403. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

- Commercial street*, No. 447. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Commercial street*, No. 455. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Congress street*, northwest corner Water street. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Court square*, at Young's Hotel. Measurement of sidewalk paving.
- Cross street*, Nos. 33 to 43. Grade of edgestone tested, line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Cross street*, No. 134. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Cross street*, North street to Fulton street. Line and grade for edgestone.
- Cross street*, Commercial street to Fulton street. Measurement of edgestone, roadway and sidewalk paving.
- Devonshire street*, northeast corner Water street. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Dock square*, Nos. 18-20. Grade of edgestone tested and measurement of sidewalk paving.
- East Brookline street*, easterly corner Washington street. Grade for edgestone (twice), grade of edgestone tested, grade for inside, and measurement of sidewalk paving.
- East Brookline street*, at Harrison avenue. Measurement of sidewalk paving.
- East Canton street*, at Harrison avenue. Measurement of edgestone, gutter and sidewalk paving.
- East Newton street*, at Harrison avenue. Measurement of edgestone, gutter and sidewalk paving.
- Eliot street*, Columbus avenue to Pleasant street. Measurement of sidewalk paving.
- Essex street*, Washington street to Harrison avenue at Siegel's. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Exeter street*, Public alley No. 426 to Commonwealth avenue. Grade of edgestone tested and grade for edgestone.
- Exeter street*, No. 3. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Falmouth street*, at Christian Science Church. Grade of edgestone tested, line and grade for edgestone (twice), line and grade for edgestone tested and measurement of sidewalk paving.

- Fleet street*, Hanover street to Commercial street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.
- Friend street*, southeast corner Causeway street. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Fulton place*. Measurement of edgestone, roadway and sidewalk paving.
- Fulton street*, Richmond street to Ferry street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.
- Gloucester street*, westerly corner Boylston street. Measurement of sidewalk paving.
- Harrison avenue*, north corner Essex street at Siegel's. Measurement of sidewalk paving.
- Harrison avenue*, at Harvard street. Measurement of roadway paving.
- Harrison avenue*, east side, at Rose street. Grade of edgestone tested (twice), grade for edgestone, and measurement of sidewalk paving.
- Harrison avenue*, East Canton street to East Newton street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.
- Harrison avenue*, No. 761 to East Concord street. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Harvard street*, Washington street to Albany street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.
- Hayward place*, southerly corner Washington street. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Ivanhoe street*, West Canton street to West Dedham street. Grade for edgestone, measurement of edgestone and sidewalk paving.
- Lincoln street*, No. 14. Grade of edgestone tested for area.
- Lincoln street*, Nos. 174 to 178. Grade of edgestone tested and measurement of sidewalk paving.
- Malden street*, easterly corner Washington street. Measurement of sidewalk paving.
- Marlboro street*, No. 10. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Marlboro street*, Nos. 175-177. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

- Marlboro street*, Nos. 191-193-195-197. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Marlboro street*, No. 249. Measurement of sidewalk paving.
- Marlboro street*, No. 251. Grade of edgestone tested and grade for inside.
- Mason street*, at Boston Theatre. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Mason street*, easterly corner Tremont street. Grade of edgestone tested for area.
- Mystic street*, northerly corner Brookline street. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- North street*, at Fulton place. Measurement of roadway paving.
- North Bennet street*, No. 18. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Norway street*, south side, Falmouth street to St. Paul street. Line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Oak street*, Washington street to Albany street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.
- Pemberton square*, southwest corner Tremont street. Grade for edgestone, grade of edgestone tested and grade for inside for area.
- Pemberton square*, No. 44. Measurement of sidewalk paving.
- Pleasant street*, Eliot street to Tennyson street. Measurement of sidewalk paving.
- St. Germain street*, Nos. 37 to 41. Measurement of sidewalk paving.
- St. James avenue*, Berkeley street to Clarendon street. Grade for edgestone and measurement of edgestone and sidewalk paving.
- St. Paul street*, east side. Line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Sharon street*, at Harrison avenue. Measurement of edgestone, gutter and sidewalk paving.
- Shawmut avenue*, Dover street to Union Park. Grade for edgestone.
- Shawmut avenue*, Milford street to Union Park. Measurement of edgestone, roadway and sidewalk paving.

*Shawmut avenue*, West Brookline street to West Newton street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*Shawmut avenue*, West Concord street to West Springfield street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*Staniford street*, Nos. 36 to 42. Grade of edgestone tested.

*Summer street*, Nos. 106 to 112. Grade for edgestone.

*Summer street*, Arch street to Otis street. Measurement of roadway paving.

*Tamworth street*. Grade of edgestone tested, grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*Tennyson street*, Pleasant street to Church street. Measurement of sidewalk paving.

*Tremont row*, at Theatre Comique. Measurement of sidewalk paving.

*Tremont street*, southwest corner Pemberton square. Grade for edgestone, grade of edgestone tested and grade for inside for area.

*Tremont street*, southerly corner Mason street. Grade for sidewalk tested for area.

*Tremont street*, Nos. 267-269. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.

*Warrenton street*, No. 100. Line and grade for edgestone.

*Washington street North*, Nos. 145-147. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

*Washington street North*, northerly corner Thacher street. Grade of edgestone tested and grade for edgestone.

*Washington street*, Essex street to Hayward place, at Siegel's. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

*Washington street*, southerly corner Beach street. Measurement of sidewalk paving.

*Washington street*, No. 685. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.

*Washington street*, southerly corner Kneeland street. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

*Washington street*, No. 1120. Grade of edgestone tested and grade for inside for area.

*Washington street*, Union Park street to Malden street. Line and grade for edgestone, grade of edgestone tested (twice), grade for edgestone, and measurement of sidewalk paving.

*Washington street*, easterly corner East Brookline street. Grade for edgestone, grade of edgestone tested and measurement of sidewalk paving.

*Water street*, Devonshire street to Congress street. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.

*Way street*. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*West Brookline street*, northwest corner Newland street. Grade for edgestone.

*Winter street*, No. 31. Measurement of sidewalk paving.

*Yarmouth street*, north corner Columbus avenue. Grade of edgestone tested for area.

#### SOUTH BOSTON.

*Anchor street*, at C street. Corners put in for construction.

*B street*, West Third street to West Broadway. Line and grade for edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*Brewster street*, East Seventh street to East Eighth street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*C street*, Fargo street to West First street. Line given for construction and corners of all intersecting streets indicated.

*C street*, Mt. Washington avenue to West First street. Measurement of edgestone and driveway paving for assessment and plan for sidewalk assessment.

*Claflin street*, at C street. Corners put in for construction.

*Cypher street*, at C street. Both sides. Corners put in for construction.

*D street*, West Seventh street to West Eighth street. Line and grade for edgestone and measurement of edgestone, roadway, crosswalk and sidewalk paving.

*D street*, West Eighth street to Old Colony avenue. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*E street*, West Fourth street to West Fifth street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.



*Danby street*, at C street. Corners put in for construction.

*East Eighth street*, Nos. 522-534. Measurement of edgestone, roadway and sidewalk paving.

*East Ninth street*, Dorchester street to Mercer street. Grade for edgestone.

*East Seventh street*, G street to Winfield street. Line and grade for edgestone.

*East Seventh street*, Winfield street to H street. Grade of edgestone tested and line and grade for edgestone.

*East Seventh street*, G street to H street. Measurement of edgestone, gutter, crosswalk and sidewalk paving.

*East Seventh street*, H street to I street. Grade of edgestone tested, line and grade for edgestone, revised grade for edgestone, partial measurement of edgestone, gutter and sidewalk paving and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*East Seventh street*, I street to K street. Grade of edgestone tested, line and grade for edgestone, and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*East Seventh street*, K street to L street. Grade of edgestone tested, line and grade for edgestone, revised grade for edgestone, and measurement of edgestone, gutter, driveway and sidewalk paving.

*East Seventh street*, Nos. 735-737. Line and grade for edgestone.

*East Third street*, H street to I street. Grade of edgestone tested, line and grade for edgestone, and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*East Third street*, I street to K street. Line and grade for edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*East Third street*, K street to L street. Line and grade for edgestone, revised grade for edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*Egmont street*, at C street. Corners put in for construction.

*F street*, West Fifth street to West Sixth street. Line and grade for edgestone.

*F street*, West Sixth street to West Seventh street. Grade for edgestone.

*Fargo street*, south side, at C street. Corners put in for construction.



*Granite street*, intersection of Mt. Washington avenue. Measurement of edgestone, roadway and sidewalk paving.

*Granite street*, West First street to West Second street. Line and grade for edgestone, line and grade of edgestone tested, grade for inside, pitch of artificial stone sidewalk tested and measurement of sidewalk paving.

*I street*, East Fourth street to East Fifth street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*I street*, East Fifth street to East Sixth street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*I street*, East Sixth street to East Seventh street. Grade of edgestone tested, line and grade for edgestone, and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*I street*, East Seventh street to East Eighth street. Line and grade for edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*I street*, East Eighth street to East Ninth street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*K street*, East First street to East Second street. Line and grade for edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*K street*, East Second street to East Third street. Grade of edgestone tested, line and grade for edgestone, and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*Mt. Washington avenue*, at C street. Corners put in for construction.

*N street*, East Second street to East Third street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*N street*, East Third street to East Broadway. Line and grade for edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*National street*, Dorchester street to Thomas park. Grade of edgestone tested, line and grade for edgestone, and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*Silver street*, Dorchester street to G street. Line and grade for edgestone and measurement of edgestone, gutter, roadway, crosswalk and sidewalk paving.

*Springer street*, West Seventh street to West Eighth street.

Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*Vale street*, Nos. 10-12. Grade of edgestone tested (twice) and line and grade for edgestone.

*Vale street*, No. 11 to Dorchester street. Measurement of sidewalk paving for assessment and plan for sidewalk assessment.

*West Broadway*, E street to F street. Line and grade for edgestone.

*West Eighth street*, northwesterly from D street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*West Fifth street*, D street to E street. Line and grade for edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

*West Fifth street*, E street to F street. Grade of edgestone tested, line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*West Fifth street*, F street to Dorchester street. Line and grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.

*West First street*, north side, at C street. Corners put in for construction.

*West First street*, south side, corner Granite street. Line and grade of edgestone tested, grade for inside, pitch of artificial stone sidewalk tested, and measurement of sidewalk paving.

*West Second street*, north side, corner Granite street. Line and grade of edgestone tested, grade for inside, pitch of artificial stone sidewalk tested, and measurement of sidewalk paving.

#### EAST BOSTON.

(Including Breed's Island.)

*Addison street*, westerly corner of Saratoga street. Line and grade for regulating.

*Bennington street*, Moore street to Orleans street. Street lines staked out and intersection of street lines put in for construction.

*Beck street*, Bremen street to Chelsea street. Line and grade for construction.

*Brooks street*, Trenton street to White street. Line and grade for resetting edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.

- Brooks street*, easterly side, Bennington street to Saratoga street. Line and grade for resetting edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.
- Havre street*, Maverick street to No. 76. Line and grade of edgestone tested, grade of edgestone marked, grade for inside and measurement of sidewalk paving.
- Lewis street*, Sumner street to South Ferry. Grade for repaving roadway and measurement of roadway paving.
- Leyden street*, Nos. 49, 67, 101. Line and grade for edgestone.
- Leyden street*, No. 135. Line and grade for edgestone.
- Leyden street*, at Church of St. Lazarus. Line and grade for setting edgestone.
- London street*, Maverick street to No. 75. Line and grade of edgestone tested, grade for resetting edgestone marked, inside grade given, and measurement of sidewalk paving.
- Marion street*, Nos. 192-194. Line and grade for setting edgestone.
- Maverick street*, north side, Havre street to London street. Line and grade of edgestone tested, inside grade marked and measurement of sidewalk paving.
- Monmouth street*, Meridian street to White street. Line and grade for resetting edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.
- Moore street*, Nos. 14, 16, 18. Line and grade for setting edgestone.
- Paris street*, No. 324. Line and grade for setting edgestone.
- Princeton street*, north side, Prescott street to No. 314. Line and grade for resetting edgestone and measurement of edgestone, gutter and sidewalk paving.
- Putnam street*, East Eagle street to White street. Line and grade for resetting edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.
- White street*, Brooks street to Putnam street. Line and grade for resetting edgestone and measurement of edgestone, gutter, driveway, crosswalk and sidewalk paving.
- White street*, north side, corner of Putnam street. Measurement for assessment.

## CHARLESTOWN.

- Arrow street*, Lynde street to Rutherford avenue. Line and grade for resetting edgestone and measurement of edgestone, gutter, driveway and sidewalk paving.

- Belmont street*, Bunker Hill street to Medford street. Line and grade for resetting edgestone.
- Chelsea street*, north side, No. 30 to Joiner street. Line and grade of edgestone tested, grade for edgestone, inside grade given, and measurement of sidewalk paving.
- Elm street*, east side, No. 57 to Hancock street. Line and grade of edgestone given and tested, inside grade marked, and measurement of sidewalk paving.
- Hancock street*, south side, No. 12 to Elm street. Line and grade of edgestone tested, grade for edgestone, inside grade marked, and measurement of sidewalk paving.
- Hunter street*, Bunker Hill street to Vine street. Line and grade for resetting edgestone.
- Joiner street*, east side, No. 8 to Chelsea street. Grade for inside and measurement of sidewalk paving.
- Ludlow street*, Eden street to Mead street. Line and grade for resetting edgestone.
- Lynde street*, Arrow street to Austin street. Line and grade for resetting edgestone and measurement of edgestone, gutter, driveway and crosswalk paving.
- Lyndeboro street*, Essex street to Middlesex street. Line and grade for resetting edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.
- Medford street*, Bunker Hill street across Short street. Line and grade for resetting edgestone.
- Miller street*, Lawrence street to Rutherford avenue. Line and grade for resetting edgestone and paving roadway and measurement of edgestone, roadway, driveway and sidewalk paving.
- School street*, Bartlett street to Bunker Hill street. Line and grade for resetting edgestone.
- Wood street*, High street to Main street. Line and grade for resetting edgestone.

## ROXBURY.

(South of Massachusetts avenue.)

- Arcadia street*, southeast side, Beethoven street to Atherton street. Measurement of sidewalk paving.
- Arnold street*, Washington street to Shawmut avenue. Line and grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Atherton street*, Washington street to Arcadia street. Measurement of sidewalk paving.
- Atherton street*, westerly corner Copley street. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

- Autumn street*, No. 18. Grade of edgestone tested (twice), line and grade for edgestone and measurement of sidewalk paving.
- Ball street*. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Bay State road*, easterly corner Deerfield street. Line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Bay State road*, Nos. 188-190-192. Grade for edgestone, grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Bay State road*, No. 233. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Beethoven street*. Measurement of sidewalk paving.
- Bellevue street*, northerly corner Park street. Line and grade for edgestone.
- Blandford street*, southwesterly corner Commonwealth avenue. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Blue Hill avenue*, Stafford street to Woodville street. Grade for edgestone, and measurement of edgestone, roadway and sidewalk paving.
- Blue Hill avenue*, Nos. 237 to 241. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Blue Hill avenue*, West Cottage street to Woodville street. Grade for edgestone.
- Blue Hill avenue*, No. 349. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.
- Blue Hill avenue*, easterly corner Intervale street. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Blue Hill avenue*, west side, Brunswick street to Intervale street. Grade of edgestone tested, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Blue Hill avenue*, west side, Georgia street to Warren street. Measurement of roadway paving.
- Brunswick street*, northerly side, near Warren street. Grade of edgestone tested (twice), line and grade for edgestone, grade for inside and measurement of sidewalk paving.
- Brunswick street*, westerly corner Blue Hill avenue. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

- Brunswick street*, northerly corner Blue Hill avenue. Grade of edgestone tested.
- Centre street*, No. 351. Line and grade for edgestone.
- Centre street*, northeasterly corner Creighton street. Line and grade for edgestone and measurement of edgestone.
- Centre street*, northwesterly corner Creighton street. Grade of edgestone tested (twice), line and grade for edgestone, grade for inside and measurement of sidewalk paving.
- Cheney street*, Elm Hill avenue to Maple street. Measurement of edgestone, gutter and sidewalk paving.
- Clifford street*, northerly side, near Warren street. Measurement of sidewalk paving.
- Columbus avenue*, Washington street to Walnut avenue. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Copley street*, westerly corner Atherton street. Grade of edgestone tested (twice), grade for edgestone and measurement of sidewalk paving.
- Crawford street*, No. 157. Line and grade for edgestone, grade of edgestone tested, and measurement of sidewalk paving.
- Crawford street*, Warren street to Elm Hill avenue. Grade for edgestone.
- Crawford street*, Humboldt avenue to Warren street. Measurement of edgestone, gutter and sidewalk paving.
- Creighton street*, northwesterly corner Centre street. Line and grade for edgestone tested and grade for inside.
- Creighton street*, northwesterly corner Centre street. Grade of edgestone tested, line and grade for edgestone, line and grade of edgestone tested, grade for inside, and measurement of sidewalk paving.
- Creighton street*, northeasterly corner Centre street. Line and grade for edgestone and measurement of edgestone.
- Dale street*, Washington street to Warren street. Measurement of sidewalk paving.
- Deerfield street*, easterly corner Bay State road. Line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Devon street*, No. 6. Measurement of sidewalk paving.
- Dorr street*, northerly corner Lambert avenue. Measurement of sidewalk paving.
- Eldora street*, southerly side. Line and grade for edgestone.
- Ellis street*, Nos. 2 to 6. Measurement of sidewalk paving.
- Elm Hill avenue*, at Cheney street. Measurement of gutter and sidewalk paving.



- Eustis street*, Washington street to school-house. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.
- Farnham street*, easterly corner Gerard street. Line and grade for edgestone.
- Fenwick street*. Measurement of edgestone, gutter and sidewalk paving.
- Fisher avenue*, southerly side, Parker street to Hayden street. Grade for gutter and measurement of edgestone, gutter and sidewalk paving.
- Fisher avenue*, southerly side, from Hayden street west. Grade for filling.
- Georgia street*, Nos. 14 to 20. Line and grade for edgestone, line and grade for edgestone tested and measurement of sidewalk paving.
- Georgia street*, Blue Hill avenue to Elm Hill avenue. Measurement of edgestone, gutter and sidewalk paving.
- Gerard street*, easterly corner Farnham street. Line and grade for edgestone.
- Granby street*, northwesterly corner Bay State road. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Hammett street*. Line and grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Hampden street*. Island street to Howard street. Grade for edgestone, measurement of edgestone, gutter and sidewalk paving.
- Harold street*, No. 9. Grade of edgestone tested (twice), grade for edgestone, and measurement of sidewalk paving.
- Harold street*, No. 157. Line and grade for edgestone, line and grade for edgestone tested and measurement of sidewalk paving.
- Hemenway street*, at Hotel Carlton. Measurement of sidewalk paving.
- Hemenway street*, southeasterly corner Norway street. Grade for edgestone.
- Hemenway street*, Nos. 205-207. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk paving.
- Highland street*, southwesterly side, Centre street to City yard. Grade for edgestone.
- Hoffman street*, easterly corner Chestnut avenue. Line and grade for edgestone.
- Homestead street*, westerly corner Humboldt avenue. Grade of edgestone tested, grade for inside and measurement of sidewalk paving.

- Howard street*, Hampden street to Gerard street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.
- Howland street*, Warren street to Humboldt avenue. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Humboldt avenue*, at Howland street. Measurement of edgestone, gutter and sidewalk paving.
- Humboldt avenue*, westerly corner Homestead street. Line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Humboldt avenue*, Nos. 267 to 271. Line and grade for edgestone.
- Huntington avenue*, at Conservatory of Music. Measurement of sidewalk paving.
- Huntington avenue*, Gainsboro street to Hemenway street. Grade for edgestone and measurement of edgestone, gutter, crosswalk and sidewalk paving.
- Hutchings street*, No. 43. Line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Hutchings street*, No. 105. Grade of edgestone tested and measurement of sidewalk paving.
- Hutchings street*, No. 116. Grade of edgestone tested.
- Hutchings street*, No. 125. Grade of edgestone tested and measurement of sidewalk paving.
- Intervale street*, southerly side, near Warren street. Line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.
- Intervale street*, northwesterly corner Blue Hill avenue. Line and grade for edgestone, line and grade for edgestone tested, and grade for inside.
- Ivy street*, Nos. 41 to 47. Grade of edgestone tested and measurement of sidewalk paving.
- Kingsbury street*, at Washington street. Measurement of sidewalk paving.
- Lambert avenue*, northwesterly side, Dorr street to Millmont street. Measurement of sidewalk paving.
- Lansing street*. Measurement of edgestone, gutter and sidewalk paving.
- Longwood avenue*, at Harvard Medical School. Grade of edgestone tested, line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.



- Madison street.* Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Maple street.* Georgia street to Schuyler street. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Maple street,* southerly corner Schuyler street. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Marcella street,* northerly side, at Washington street. Measurement of sidewalk paving.
- Massachusetts avenue,* northwesterly corner Newbury street. Grade for area.
- Maywood street,* Nos. 67 to 73. Grade for edgestone, grade of edgestone tested and measurement of sidewalk paving.
- Minden street,* Nos. 85-87. Line and grade for edgestone.
- Montana street,* westerly side, at Georgia street. Measurement of edgestone, gutter and sidewalk paving.
- Montrose street,* southwesterly corner Moreland street. Line and grade for edgestone.
- Mt. Pleasant avenue,* No. 122. Measurement of sidewalk paving.
- Mountfort street,* rear of No. 824 Beacon street. Grade of edgestone tested (twice), grade for edgestone, grade for inside and measurement of sidewalk pavement.
- Newbury street,* northwesterly corner Massachusetts avenue. Grade for area.
- Newcomb street,* Reed street to Harrison avenue. Grade of edgestone tested.
- Park street,* northerly corner Bellevue street. Line and grade for edgestone.
- Quincy street,* No. 99. Measurement of sidewalk paving.
- Ray street.* Measurement of edgestone, gutter and sidewalk paving.
- Rockland street,* Walnut avenue to bend. Measurement of sidewalk paving.
- Ruthven street,* southerly corner Walnut avenue. Grade of edgestone tested and measurement of sidewalk paving.
- Ruthven street,* southwesterly side, Harold street to Walnut avenue. Line and grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Ruthven street,* Humboldt avenue to Elm Hill avenue. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.

- St. Alphonsus street*, southeasterly side, Calumet street to Tremont street. Measurement to locate old edgestone, grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Sarsfield street*, Columbus avenue to railroad. Measurement of edgestone, gutter and sidewalk paving.
- Schuyler street*, southerly corner Maple street. Grade for edgestone.
- Schuyler street*, Hartwell street to Maple street. Measurement of edgestone, gutter and sidewalk paving.
- Schuyler street*, northeasterly side, Elm Hill avenue to Maple street. Measurement of edgestone, gutter and sidewalk paving.
- Seaver street*, easterly corner Walnut avenue. Grade for gutter.
- Sherman street*, No. 24 to Bower street. Measurement of edgestone, gutter and sidewalk paving.
- Shawmut avenue*, Woodbury street to Ball street. Measurement of edgestone, roadway and sidewalk paving.
- Shirley street*, southerly corner Clifton street. Line and grade for edgestone.
- Smith street*, Parker street to Phillips street. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Smith street*, St. Alphonsus street to Huntington avenue. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.
- Southampton street*, northerly corner Atkinson street. Measurement for assessment.
- Thornton street*, Ellis street to Valentine street. Measurement of edgestone, gutter and sidewalk paving.
- Valentine street*, northeasterly side, Thornton street to Washington street. Measurement of sidewalk paving.
- Valentine street*, northeasterly side, Thornton street to Fulda street. Measurement of edgestone, gutter and sidewalk paving.
- Wabeno street*. Grade for edgestone.
- Wakullah street*, easterly side, Rockland street to Dale street. Measurement of gutter and sidewalk paving.
- Walnut avenue*, southeasterly corner Ruthven street. Line and grade for edgestone, grade of edgestone tested, and measurement of edgestone, gutter and sidewalk paving.
- Warren street*, Dudley street to Moreland street. Grade for edgestone.
- Warren street*, Dudley street to No. 115. Measurement of edgestone, roadway and sidewalk paving.

*Warren street*, No. 111. Grade of edgestone tested, line and grade for edgestone, line and grade for edgestone tested, grade for inside and measurement of sidewalk paving.

*Warren street*, westerly side, Bower street to Dale street. Measurement of sidewalk paving.

*Warren street*, Elm Hill avenue to Blue Hill avenue. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*Washington street*, Arnold street to Eustis street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*Washington street*, Nos. 2220 to 2224. Grade of edgestone tested, grade of inside and measurement of sidewalk paving.

*Washington street*, Vernon street to Marvin street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*Washington street*, Zeigler street to Dudley street. Grade for edgestone and measurement of edgestone, roadway and sidewalk paving.

*Washington street*, Marcella street to Dale street. Measurement of edgestone and sidewalk paving.

*Washington street*, Codman Hill street to Columbus avenue. Measurement of edgestone, gutter and sidewalk paving.

*Waumbeck street*, Warren street to Humboldt avenue. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.

*Waumbeck street*, No. 84. Line and grade for edgestone, line and grade for edgestone tested, and measurement of sidewalk paving.

*Wenonah street*. Grade for edgestone and measurement of edgestone and sidewalk paving.

*Weston street*, Tremont street to Cabot street. Grade for edgestone and measurement of edgestone, gutter and sidewalk paving.

*Whitney street*, at Smith street. Measurement of edgestone, gutter and sidewalk paving.

#### DORCHESTER.

*Abbott street*, Nos. 16-18 and 20. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade for artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

- Abbot street*, Nos. 17 to 23. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Adams street*, Nos. 58 to 62. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Adams street*, east side, between King street and Rozella street. Line and grade of edgestone.
- Adams street*, southerly corner of Dorchester avenue. Line and grade of edgestone tested, street line and grade marked, grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Algonquin street*, No. 28. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Arcadia street*, Nos. 15 to 17. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Ashland street*, Nos. 12 to 18. Measurement of amount of edgestone required.
- Ashland street*, southwest corner of Elm street. Line and grade of edgestone tested, street line and grade marked, grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Ashland street*, Nos. 9-15-17 and 19. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Belfort street*, No. 4. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Bellevue street*, Nos. 6 and 8. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Bellevue street*, Nos. 34-36. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Bloomfield street*, Nos. 36-67-69-71-73-86-90. Measurement of artificial stone sidewalk.

*Blue Hill avenue*, between McLellan street and Glenway street. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk, edgestone and gutter paving.

*Blue Hill avenue*, Nos. 1631 to 1633; 1651-1661. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bodwell street*, No. 22. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bowdoin avenue*, from Eldon street to top of hill. Line and grade for edgestone.

*Bowdoin street*, at Mt. Ida road. Line and grade for edgestone.

*Bowdoin street*, Nos. 27-29. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bowdoin street*, No. 74. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bowdoin street*, No. 114. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bowdoin street*, No. 151. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bowdoin street*, Nos. 170 and 176. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bowdoin street*, Nos. 185-185A. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Bowdoin street*, Nos. 213 to 221-229-338-344. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

- Bowdoin street*, Nos. 114-342-344. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Bowdoin street*, Nos. 353 to 361. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Bradshaw street*, Nos. 10-50-65. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Bradshaw street*, at southwest corner of Bicknell street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Burgess street*, No. 28. Measurement of amount of edgestone required and line and grade for edgestone.
- Carruth street*, No. 52. Line and grade for artificial stone sidewalk, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Centre street*, Nos. 344 to 368. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk, edgestone and gutter paving.
- Charles street*, Nos. 10-12. Line and grade for edgestone, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Charles street*, Nos. 64 to 68-69-73. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Church street*, Nos. 10-22. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Clarkson street*, Nos. 68 to 78. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Colonial avenue*, No. 2. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.



- Columbia road*, Nos. 755 to 765. Line and grade for artificial stone sidewalk, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Corwin street*, northeast corner of Arcadia street. Measurement of amount of edgestone required and line and grade for edgestone.
- Cushing avenue*, Nos. 124 to 128. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, and measurement of artificial stone sidewalk.
- De Wolfe street*, Nos. 9 to 23. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dix street*, No. 67. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dorchester avenue*, southeast corner of Adams street. Line and grade of edgestone tested, street grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dorchester avenue*, between Ellet street and Leedsville street. Line and grade for resetting edgestone and measurement of edgestone and roadway paving.
- Dorchester avenue*, between Crescent avenue and Howe street. Measurement of roadway paving.
- Dorchester avenue*, between Victoria street and Howe street. Measurement of roadway paving.
- Dorchester avenue*, between Crescent avenue and beyond Sudan street. Measurement of roadway paving.
- Dorchester avenue*, Nos. 1312-1314. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dorchester avenue*, No. 1505. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dorchester avenue*, No. 1635. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

- Dorchester avenue*, No. 2175. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dorchester avenue*, Nos. 2209 to 2221. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dorchester avenue*, Nos. 2255-2259. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dracut street*, No. 34. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dracut street*, *Dorchester avenue* to *Bruce street*. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Draper street*, No. 84. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Draper street*, Nos. 141-143. Measurement of artificial stone sidewalk.
- Dudley street*, No. 760. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Dudley street*, Nos. 590-606. Line and grade of edgestone tested, street line and grade marked, grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Duke street*, No. 37. Line and grade for artificial stone sidewalk.
- Edson street*, southeast corner of *Norfolk street*. Line and grade for edgestone.
- Elm street*, southwest corner of *Ashland street*. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Elton street*, Nos. 5-9. Measurement of amount of edgestone required, line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.



*Fayston street*, No. 7. Measurement of artificial stone sidewalk.

*Fenelon street*, northwest corner Merrill street. Line and grade of edgestone tested, street line and grade marked, and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Florida street*, Nos. 111 to 115. Line and grade of edgestone tested, street line and grade marked.

*Freeport street*, from Linden street to railroad. Line and grade for resetting edgestone.

*Freeport street*, Nos. 329 to 341. Measurement of amount of edgestone required and line and grade for edgestone.

*Geneva avenue*, Bowdoin street to Westville street. Line and grade for edgestone and measurement of edgestone and gutter paving.

*Geneva avenue*, at No. 21 Homes avenue. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Geneva avenue*, Waldeck street to Vinson street. Line and grade for edgestone and measurement of edgestone and gutter paving.

*Geneva avenue*, Nos. 91 to 103. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Geneva avenue*, No. 105. Line and grade for edgestone.

*Geneva avenue*, Nos. 100-106. Line and grade for edgestone, line and grade of edgestone tested, inside grade marked, line and grade for artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Geneva avenue*, No. 362. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Geneva avenue*, Nos. 460-462. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Gleason street*, line and grade for resetting edgestone and measurement of edgestone, gutter and sidewalk paving.

*Glenway street*, east side, from Brenton street to Harvard street. Line and grade for resetting edgestone, and measurement of edgestone and gutter paving.

*Glenway street*, at Endicott school. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk, edgestone and gutter paving.

*Glenway street*, south side, at Blue Hill avenue. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk, edgestone and gutter paving.

*Glenway street*, No. 11. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk, edgestone and gutter paving.

*Glenway street*, No. 64. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Grafton street*, south side, from Dorchester avenue to Buttonwood street. Line and grade for gutter.

*Greenbrier street*, Nos. 12-14-16 and 38. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Greenmount street*, south side, at Dorchester avenue. Line and grade for artificial stone sidewalk.

*Hamilton street*, Nos. 70-72-74. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Hamilton street*, No. 109. Measurement of artificial stone sidewalk.

*Hamilton street*, Nos. 156-176-180-182-184. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Hamilton street*, Nos. 165-167-169-171-175-203-205. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

*Harley street*, from Roslin street to Walton street. Line and grade for edgestone and gutters, and measurement of same.

- Hartford street*, from Hooper street to Howard avenue.  
Line and grade for resetting edgestone.
- Hartland street*, Saxton street to Tuttle street. Line and grade for edgestone.
- Harvard street*, north side, from Glenway street to School street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Harvard street*, No. 106. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Harvard street*, Nos. 207-209. Line and grade of edgestone tested, street line and grade marked, line and grade of edgestone tested, and measurement of artificial stone sidewalk.
- Hendry street*, Nos. 3-5-7. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Homes avenue*, Nos. 21-42-44-46. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Jerome street*, at St. Mary's Infant Asylum. Line and grade for edgestone.
- King street*, No. 17. Measurement of coal tar concrete sidewalk.
- Kingsdale street*, Nos. 33 to 37. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Kingsdale street extension*, No. 67 to Talbot avenue. Line and grade for filling.
- Kingsdale street*, Nos. 41 and 49. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Kingsdale street*, Nos. 67-69. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Leyland street*, No. 34. Line and grade for edgestone.

- Linden street*, south side, at Dorchester avenue. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Lyndhurst street*, Nos. 38 and 48. Measurement of artificial stone sidewalk.
- Magnolia street*, No. 25. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Margaret street*. Line and grade for artificial stone sidewalk.
- Marlowe street*. Line and grade for artificial stone sidewalk.
- Mather street*, northwest corner of Dorchester avenue. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Mayfield street*, No. 25. Line and grade for driveway.
- Mayfield street*, No. 72. Measurement of artificial stone sidewalk.
- McLellan street*, at Endicott school. Measurement of amount edgestone required.
- McLellan street*, at Endicott school. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, and measurement of artificial stone sidewalk, edgestone and gutter paving.
- Mellen street*, Nos. 18 and 50. Measurement of artificial stone sidewalk.
- Merrill street*, corner of Fenelon street. Line and grade of edgestone tested, inside grade marked, grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Michigan avenue*, Nos. 9-11. Line and grade of edgestone tested, street line and grade marked.
- Mill street*, Nos. 26-28. Measurement of amount of edgestone required and line and grade for edgestone, and measurement of edgestone and gutter paving.
- Mill street*, Nos. 29-33-37. Measurement of amount of edgestone required, line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Mill street*, No. 44. Measurement of amount of edgestone required, and line and grade for edgestone.

- Milton avenue*, Nos. 2-6. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Milton avenue*, Nos. 14 to 18A. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Montello street*, No. 14. Measurement of amount of edgestone required.
- Montello street*, No. 20. Line and grade of edgestone tested, street line and grade marked, grade of artificial stone tested, and measurement of artificial stone walk.
- Morse street*, west side, from Bowdoin avenue to Washington street. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Morton street*, Nos. 1256-1258. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Mt. Ida road*, southeast corner of Potosi street. Line and grade for resetting edgestone.
- Mt. Vernon street*, Boston street to Dorchester avenue. Line and grade for resetting edgestone and measurement of edgestone, gutter and sidewalk paving.
- Neponset avenue*, Nos. 16-18. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Norfolk street*, Nos. 142-144-146. Measurement of amount of edgestone required and line and grade for edgestone.
- Norfolk street*, at cemetery. Measurement of amount of edgestone required and line and grade for edgestone.
- Norfolk street*, No. 160-166. Line and grade for edgestone, line and grade of edgestone tested, inside grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Norton street*, Nos. 10-14-18 to 28-30 to 36. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk, edgestone and gutter paving.
- Norton street*, Nos. 41-43-45. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

- Norton street*, No. 58. Measurement of amount of edgestone required and line and grade for edgestone.
- Ocean street*, No. 75. Line and grade for edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Ocean street*, southwest corner of Welles avenue. Line and grade for resetting edgestone, and measurement of edgestone and gutter paving.
- Old road*, southeast side, at Glenway street. Line and grade for edgestone, and measurement of edgestone and gutter paving.
- Olney street*, Nos. 11-17. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Ormond street*. Line and grade for artificial stone sidewalk.
- Park street*, between railroad and Waldeck street. Measurement of coal tar concrete.
- Park street*, No. 263. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Pleasant street*, Nos. 70-72 and 115. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Potosi street*, corner of Mt. Ida road. Line and grade for resetting edgestone.
- Potosi street*, near Mt. Ida road. Line and grade for resetting edgestone.
- Prescott place*. Line and grade for artificial stone sidewalk.
- Quincy street*, northwest corner Bowdoin street. Line and grade of edgestone tested, inside grade marked, grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Richfield street*, No. 56. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- River street*. Line and grade for resurfacing.
- River street*, No. 600. Line and grade for edgestone.
- Rockdale street*, near Oakland street. Grade for artificial stone sidewalk.



- Rockwell street*, No. 31. Line and grade for edgestone, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Romsey street*, No. 77. Line and grade for edgestone.
- Roseclair street*, Nos. 24-61-63. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Rosewood street*, near Oakland street. Grade for artificial stone sidewalk.
- Roslin street*, line and grade for dish gutters and measurement of gutter paving.
- Sargent street*, No. 9. Line and grade for edgestone tested, inside grade marked, grade for artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Savin Hill avenue*, Nos. 14-16-18. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- School street*, from Athelwold street to Washington street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Seaver street*, Nos. 350-354-356. Line and grade for edgestone.
- Southern avenue*, northerly corner of Talbot avenue. Grade for artificial stone sidewalk.
- Southern avenue*, northwesterly corner Whitfield street. Grade for artificial stone sidewalk.
- Standish street*, No. 3. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Standish street*, No. 4. Measurement of amount of edgestone required and line and grade for edgestone.
- Standish street*, Nos. 12-14. Line and grade for edgestone.
- Stoughton street*, from Columbia road to Pleasant street. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Talbot avenue*, Welles avenue to High School. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Talbot avenue*, and Whitfield street. Line and grade of edgestone tested, line and grade for artificial stone sidewalk tested, and measurement of artificial stone sidewalk.



- Talbot avenue*, Nos. 287-289. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Talbot avenue*, at Kingsdale street extension. Line and grade for opening.
- Tebroc street*, east side. Line and grade for edgestone.
- Thetford avenue*, Nos. 32 and 64. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Thetford avenue*, No. 62. Line and grade for edgestone.
- Thornley street*, Nos. 22-24-26. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Thornley street*, Nos. 19-21-23-25. Line and grade for resetting edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Tonawanda street*, from Geneva avenue to Greenbrier street. Line and grade for resetting edgestone and measurement of edgestone, gutter and sidewalk paving.
- Topliff street*, Nos. 5-7-31-32-34. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Vaughan street*, northerly side, near Blue Hill avenue. Line and grade for artificial stone sidewalk.
- Wales street*, from Blue Hill avenue to Harvard street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Wales street*, No. 32. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Wales street extension*, Talbot avenue to Nightingale street. Grade for filling.
- Walton street*, from Washington street to Harley street. Line and grade for resetting edgestone, street line and grade marked, line and grade for artificial stone sidewalk tested, and measurement of artificial stone sidewalk, edgestone and gutter paving.

- Washington street*, from Bowdoin street to Eldon street. Line and grade for edgestone, and measurement of edgestone, gutter and sidewalk paving.
- Washington street*, from Euclid street to Ashmont street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Washington street*, east side, from Walton street to Welles avenue. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Washington street*, at Baker court. Measurement of amount of edgestone required and line and grade for edgestone.
- Washington street*, No. 1209. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Welles avenue*, south side, Washington street to Harley street. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Wells avenue*, Harley street to Ocean street. Line and grade for dish gutters and measurement of gutter paving.
- Welles avenue*, near Talbot avenue. Line and grade for repaving dish gutters.
- Welles avenue*, Nos. 16-22-51-55. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Wellington Hill street*, No. 68. Line and grade for artificial stone sidewalk.
- Wellington road*. Revised grade for artificial stone sidewalk.
- Westville street*, No. 76. Line and grade for resetting edgestone.
- Wheatland avenue*, Nos. 29-34-37-38-42-51. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Whitfield street*, southwest corner Talbot avenue. Line and grade tested for artificial stone sidewalk.
- Winter street*, northwest corner Church street. Line and grade for edgestone, line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.

- Wolcott street*, Nos. 31-33-34-35-37-40. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Woodward Park street*, from Folsom street to Howard avenue. Measurement of amount of edgestone required and line and grade for edgestone.
- Wrentham street*, Nos. 89-91. Line and grade of edgestone tested, street line and grade marked, line and grade of artificial stone sidewalk tested, and measurement of artificial stone sidewalk.
- Wrentham street*, northeasterly corner Dorchester avenue. Measurement of coal tar concrete.

## WEST ROXBURY.

- Amory street*, westerly side Boylston street to Green street. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Ashland street*, Rowe street to railroad bridge. Line and grade for roadway and gutter paving.
- Beech street*, Washington street to Poplar street. Line and grade for paving gutters and measurement of gutter paving.
- Blakemore street*, Hyde Park avenue to railroad bridge. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Boylston street*, at Brookside avenue. Line and grade for resetting edgestone, line and grade of edgestone tested, inside grade marked, and measurement of sidewalk paving.
- Boylston street*, No. 25. Line and grade of edgestone tested, inside grade marked and measurement of sidewalk paving.
- Boylston street*, Nos. 191-193. Line and grade of edgestone tested, inside grade marked, and measurement of sidewalk paving.
- Boylston street*, at railroad bridge. Measurement of sidewalk paving.
- Brookside avenue*, at Boylston street. Line and grade for resetting edgestone, line and grade of edgestone tested, inside grade marked, and measurement of sidewalk paving.
- Calder street*, No. 12. Line and grade for resetting edgestone, line and grade of edgestone tested, inside grade marked, and measurement of sidewalk paving.

- Carolina avenue*, South street to Call street. Line and grade for paving gutters and measurement of gutter paving.
- Centre street*, at Starr lane and at Soldiers' Monument. Measurement of sidewalk paving.
- Centre street*, Nos. 660-708-710-716. Measurement of sidewalk paving.
- Centre street*, No. 1129. Measurement of edgestone, revised grade of edgestone given, line and grade of edgestone tested (twice), inside grade marked, and measurement of sidewalk paving.
- Congreve street*, South street to Centre street. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Cornwall street*, Brookside avenue to Amory street. Line and grade for paving gutters and measurement of gutter paving.
- Danforth street*, Paul Gore street to Boylston street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Elm street*, Roanoke avenue to Greenough avenue. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Elm street*, at Seaverns avenue. Measurement of sidewalk paving.
- Florence street*, Ashland street to Poplar street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Florence street*, No. 23. Measurement of concrete paving.
- Forest Hills street*, No. 156. Measurement of sidewalk paving.
- Germania street*, Haverford street to Brookside avenue. Line and grade for paving gutters and measurement of gutter paving.
- Glen road*, No. 53. Measurement of sidewalk paving.
- Green street*, No. 45. Measurement of sidewalk paving.
- Greenough avenue*, westerly side, near Elm street. Measurement of edgestone and gutter paving.
- Hewlett street*, at Longfellow school. Estimate of amount of edgestone required and line and grade for edgestone.
- Lamartine street*, No. 276 to Oakdale street and at No. 327. Measurement of sidewalk paving.
- Lorraine street*. Street corners staked out for construction.
- Meredith street*. Street corners staked out for construction.
- Metropolitan avenue*, at Augustus avenue. Line and grade for edgestone and measurement of edgestone and gutter paving.

- Morrison street*, at Gardner street. Street line for building fence.
- Mt. Hope street*. Hyde Park avenue to Stony brook. Line and grade for paving gutters and measurement of gutter paving.
- Newburg street*. Cornell street to Beech street. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Penfield street*, Birch street to Belgrade avenue. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Paul Gore street*, south side, Danforth street to Lamartine street. Line and grade for edgestone and measurement of edgestone and gutter paving.
- Paul Gore street*, Nos. 31-33. Line and grade of edgestone tested and inside grade marked.
- Paul Gore street*, No. 88. Line and grade for edgestone and line and grade for edgestone tested.
- Rosemary street*. Street corners staked out for construction.
- Rowe street*. Street corners staked out for construction.
- School street*, Washington street to Walnut avenue. Line and grade for edgestone and gutters and measurement of edgestone and gutter paving.
- Seaverns avenue*, No. 63. Measurement of sidewalk paving.
- South street*, at Soldiers' Monument. Measurement of sidewalk paving.
- South street*, Nos. 12-44-53-55-67. Measurement of sidewalk paving.
- Spring Park avenue*, No. 18. Line and grade of edgestone tested, inside grade marked and measurement of sidewalk paving.
- Stratford street*, Anawan avenue to Clement avenue. Measurement of sidewalk paving.
- Tappan street*, South street to end. Line and grade for edgestone and gutters and measurement of edgestone and gutter paving.
- Temple street*, Vermont street to Keith street. Line and grade for paving gutters and measurement of gutter paving.
- Vermont street*, La Grange street to Temple street. Line and grade for paving gutters and measurement of gutter paving.
- Washington street*, Columbus avenue to School street and Green street to Morton street. Line and grade for regulating edgestone and sidewalk and measurement of edgestone and gutter paving.

- Washington street*, Nos. 3351-3357. Measurement of sidewalk paving.
- Weld avenue*, Columbus avenue to School street. Line and grade for resetting edgestone and measurement of edgestone, gutter and sidewalk paving.
- Wenham street*, Weld Hill street to Walk Hill street. Line and grade for resetting edgestone and measurement of edgestone, gutter and sidewalk paving.
- Westbourne street*, Cornell street to Beech street. Line and grade for resetting edgestone and measurement of edgestone, gutter and crosswalk paving.

## BRIGHTON.

- Arlington street*, Parsons street, westerly to end. Line and grade for paving gutters.
- Ashford street*, Pratt street to Linden street. Measurement of sidewalk paving.
- Beacon street*, Reservoir lane to Newton line. Line and grade for macadamizing street.
- Braintree street*, Nos. 93-107. Estimate of amount of edgestone required and line and grade for edgestone.
- Cambridge street*, at Royal street and Nos. 237-243. Measurement of sidewalk paving.
- Chester street*, Brighton avenue to Commonwealth avenue. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- Chester street*, Gardner street to Ashford street. Measurement of sidewalk paving.
- Corey road*, Nos. 84-86. Line and grade of artificial stone sidewalk tested and measurement of sidewalk paving.
- Gardner street*, at Harvard avenue. Measurement of sidewalk paving.
- Hano street*. Line and grade for macadamizing street.
- Harvard avenue*, Nos. 31-37 and 90-96. Line and grade for resetting edgestone, line and grade of edgestone tested, inside grade marked, and measurement of sidewalk paving.
- Harvard avenue*, at Cambridge street. Measurement of sidewalk paving.
- Henshaw street*, at police station lot. Measurement of sidewalk paving.
- Herrick street*, North Beacon street to Hichborn street. Line and grade for paving gutters.
- Hichborn street*, North Beacon street to Arthur street. Line and grade for paving gutters.

- Lanark road*, corner Sutherland road. Line and grade for paving gutters.
- Market street*, Washington street to North Beacon street. Line and grade for resetting edgestone and measurement of edgestone and gutter paving.
- North Beacon street*, Cambridge street to Murdock street. Line and grade for paving gutters and measurement of edgestone and gutter paving.
- Orkney road*, No. 10. Line and grade of edgestone tested and inside grade marked.
- Parsons street*, No. 66. Line and grade for resetting edgestone, line and grade of edgestone tested, inside grade marked, and measurement of sidewalk paving.
- Royal street*, No. 59. Estimate of amount of edgestone required and line and grade for edgestone.
- Selkirk road*, south side, Sutherland road to Chiswick road. Line and grade for paving gutters.
- Strathmore road*, Englewood avenue to Commonwealth avenue. Line and grade for paving gutters and measurement of gutter paving.
- Sutherland road*, Englewood avenue to Commonwealth avenue. Line and grade for paving gutters and measurement of gutter and crosswalk paving.
- Washington street*, south side, Academy Hill road to Winship street. Measurement of sidewalk paving.
- Washington street*, at Wirt street. Measurement of sidewalk paving.
- Wirt street*, at police station lot. Measurement of sidewalk paving.
- Wirt street*, No. 20. Line and grade for edgestone.



## PLANS

IN SURVEYING DIVISION, ENGINEERING DEPARTMENT, JANUARY 31, 1907.

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			<hr/>
			3,726
			<hr/>



[FROM THE CITY ENGINEER'S REPORT TO  
THE WATER DEPARTMENT.]

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A large part of the work done during the past year was of a routine character. In order to decrease the excessive loss of head existing on the low service between Chestnut Hill reservoir and the city proper, it was decided to lay a 48-inch main from the 30-inch and 36-inch mains in Tremont street, via Prentiss street and Longwood avenue, to connect with the 40-inch main in Brookline avenue, and thence to extend it, in the near future, to connect with the 48-inch main in Beacon street, Brookline, at Coolidge Corner. A beginning was made in this work during the year by laying 1,462 feet of 48-inch pipe in Longwood avenue, westerly from Huntington avenue.

The work of replacing the old 30-inch main in Tremont street, begun in 1903, was continued, and 568 feet of new pipe was laid from Kendall street to a point near Burke street, where the old pipe was found to be in good condition. The old 30-inch main from Massachusetts avenue to Burke street was abandoned.

A large amount of miscellaneous work was done in connection with the construction of the subway in Washington street; it was necessary to abandon the 24-inch main in Union street, Haymarket square, and Merrimac street from Hanover street to Canal street, and the 20-inch main in Washington street North, from Union street to Stillman street; to replace these pipes a 30-inch main was laid from the 30-inch main in Traverse street, via Haverhill street, Stillman street and Endicott street to Cross street, where a 30-inch branch was left for a future extension; from this point a 24-inch main was laid in Endicott street to Hanover street, and the old 24-inch main in Hanover street was relaid. The 24-inch main in Washington street was relaid from State street to Adams square. All of these large mains abandoned on account of the subway construction were a part of the original distribution system.

Considerable progress was made in the work of extending the High and Low Service Systems to the South Boston Flats, 226 feet of 24-inch and 959 feet of 16-inch pipe being laid, principally in Congress street.

The work of increasing the supply of water for fire purposes was continued, and improvements in this line were made in different parts of the city, notably in Charlestown, where about one mile of 12-inch pipe, supplying hydrants, was laid in the yards of the B. & M. R.R. west of Rutherford avenue. This work has greatly lessened the serious danger which threatened Charlestown from fires originating in the Boston & Maine Railroad freight sheds which extend along Rutherford avenue from the State prison to foot of Spice court.

A 2-inch lead pipe, laid in 1895 from Moon Island to Long Island, was taken up and laid between Long and Rainsford Islands to serve as an emergency pipe, as the existing 4-inch flexible pipe had failed several times.

Electrical investigations have been continued, and additional evidence has been found that serious damage is being done to the water-pipe system by electrolysis.

## GENERAL STATISTICS.

### BOSTON WATER DEPARTMENT.

Daily average amount used (gallons)	90,951,800
Daily average amount used through meters during 1906 (gallons)	21,055,600
Number of services February 1, 1907	93,202
Number of meters in service February 1, 1907	5,084
Number of meters under supervision February 1, 1907	120
Number of elevators under supervision February 1, 1907	591
Length of supply and distributing mains in miles February 1, 1907	743.6
Number of public hydrants in use February 1, 1907	7,772
Yearly revenue from annual water rates (assessed)	\$1,350,188.41
Yearly revenue from metered water (assessed)	\$1,173,696.71
Percentage of total revenue from metered water,	46.51
Yearly expense of maintenance	\$532,189.33

## Monthly Rainfall in Inches during 1906 in Various Places in Eastern Massachusetts.

PLACES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Framingham.....	2.50	2.88	6.13	2.72	5.25	3.38	3.13	2.64	2.91	3.11	2.50	4.39	41.54
Dam 4, Ashland.....	2.46	2.94	6.45	2.77	5.67	3.76	3.47	3.24	3.42	3.51	2.64	4.53	44.86
Cordaville.....	2.59	3.07	6.56	3.25	6.33	4.63	3.63	3.77	3.99	3.85	3.12	4.68	49.47
Lake Cochituate.....	2.66	2.59	6.47	2.60	4.98	3.44	3.04	2.37	2.84	3.26	2.50	4.68	41.43
Chestnut Hill Reservoir.....	3.65	3.17	7.42	2.62	5.43	3.56	4.13	1.82	2.92	3.71	3.37	5.36	47.16
Spot Pond.....	2.63	2.37	6.46	1.97	5.28	4.61	3.69	2.36	2.26	2.65	3.04	4.54	41.86
Cambridge Observatory.....	2.82	3.05	7.32	2.32	4.67	1.68	5.37	1.63	2.44	3.09	3.47	2.80	40.66
Waltham, Boston Manufacturing Company.....	3.10	2.76	5.43	3.24	5.49	4.41	3.53	2.78	3.08	3.15	3.11	5.09	45.17
Lowell, Locks and Canals Company.....	2.43	2.59	6.60	3.00	6.00	4.80	5.95	3.47	1.43	2.38	3.08	4.20	45.33
Main Drainage Yard, 705 Massachusetts avenue.....	2.46	2.95	4.46	1.90	4.77	2.36	4.73	1.17	2.64	5.01	3.33	2.90	33.18
Average of above ten places.....	2.78	2.84	6.27	2.64	5.39	3.66	4.07	2.53	2.79	3.37	3.02	4.32	43.67

Average Stated Monthly Heights, in Feet, above City Base, to which Water Rose at Different Stations, on the Boston Water Works.

1906.	Chestnut Hill Pumping Station, Brighton.				Boston Common.				Engine House No. 6, Salem street.				Engine House No. 7, East street.				Engine House No. 38, Congress street, South Boston.				Boston Water Dept. Yard, 720 Albany street, Roxbury.				Engine House No. 2, Fourth and O streets, South Boston.				Engine House No. 26, Walnut street, Dorchester.		Engine House No. 34, Western avenue, Brighton.				Engine House No. 32, Bunker Hill street, Charlestown.				Engine House No. 5, Marion street, East Boston.				City Hall, High Service.		Engine House No. 14, Quincy street, Roxbury, High Service.		Engine House No. 13, Norfolk street, Dorchester, High Service.		Engine House No. 20, Chestnut Hill, Brighton, High Service.		Parental School, Spring street, West Roxbury, High Service.	
Month	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	1 P.M.	5 P.M.	3 A.M.	9 A.M.	3 A.M.	9 A.M.	3 A.M.	9 A.M.	3 A.M.	9 A.M.	3 A.M.	9 A.M.				
January.	152.4	155.1	155.0	155.8	145.7	133.4	134.0	136.5	149.4	126.6	127.2	130.5	143.0	126.4	129.3	130.4	134.9	115.6	117.8	120.8	143.7	130.4	131.9	132.4	135.6	116.0	119.4	122.8	145.3	135.0	145.5	141.8	141.6	141.7	161.9	133.8	154.5	126.1	154.5	144.5	146.1	149.0	145.5	125.3	143.9	133.4	146.8	140.9	148.5	147.1	143.4	139.4
February.	146.7	164.6	160.1	158.5	152.1	130.3	131.7	134.2	137.0	124.6	125.5	127.8	137.9	125.3	127.4	128.5	131.4	116.3	117.7	120.6	138.1	126.7	128.1	129.5	132.3	116.0	119.4	121.9	145.8	136.4	144.5	140.3	140.2	140.7	161.0	133.5	153.1	150.6	150.6	145.3	145.4	150.7	144.8	134.1	134.7	136.3	146.7	140.1	149.0	146.6	143.7	138.6
March....	152.1	185.0	186.3	189.0	147.7	132.5	133.5	135.8	141.0	128.5	127.1	130.6	142.9	128.9	128.2	129.7	137.9	119.5	121.3	124.6	145.1	129.4	135.0	139.6	146.3	119.4	122.2	125.2	146.6	136.1	147.9	142.3	142.6	142.3	161.1	134.8	156.3	156.3	156.3	145.4	149.2	150.8	145.9	135.2	147.9	138.1	149.0	143.6	149.0	146.3	144.7	138.8
April. ....	154.9	164.1	159.7	158.3	149.9	129.3	132.7	134.4	144.8	123.0	125.0	128.0	147.1	123.3	129.8	130.9	141.1	118.4	121.3	124.4	146.9	127.3	132.2	132.6	148.5	118.6	122.9	125.8	146.2	134.5	151.1	141.4	143.1	143.0	161.3	137.6	158.4	159.8	159.1	148.1	152.1	153.5	145.6	146.5	148.9	138.1	146.9	143.1	149.0	146.8	144.9	137.6
May.....	154.6	163.8	159.5	159.0	150.2	126.6	129.7	132.8	144.2	120.5	123.0	126.9	146.2	120.8	127.1	127.2	146.9	114.5	117.6	123.4	147.7	123.2	130.8	130.1	143.4	114.3	118.6	124.1	143.6	123.8	150.8	137.5	146.4	141.3	154.1	136.1	156.9	158.7	156.1	146.8	150.2	150.2	145.6	134.1	147.8	134.9	148.9	130.1	150.0	143.2	144.7	135.6
June ..	152.3	154.7	148.4	158.3	147.3	124.6	127.8	130.0	142.4	118.7	120.4	124.1	142.8	120.1	126.9	126.9	138.3	114.0	118.4	120.6	144.1	120.2	129.6	128.5	140.2	114.6	118.9	122.2	144.3	129.1	144.6	137.3	139.6	129.3	164.3	136.6	155.0	159.1	159.3	146.8	151.0	152.4	145.5	122.7	146.5	134.0	148.7	139.7	148.4	144.9	144.8	135.4
July ....	147.9	154.5	150.8	157.4	143.3	126.6	128.2	130.5	126.9	119.9	125.0	131.7	135.4	121.0	127.0	125.4	134.7	114.6	119.1	120.1	146.5	124.2	130.4	128.3	116.6	116.1	119.4	121.7	147.5	121.3	148.3	128.3	132.6	125.7	162.6	127.1	159.2	169.4	169.1	147.2	151.7	152.8	145.1	123.9	148.5	127.4	148.8	122.2	148.5	126.6	145.8	128.3
August...	147.7	155.9	156.8	158.8	141.6	124.0	127.3	128.8	.....	.....	.....	.....	137.6	120.6	127.2	126.4	135.4	115.7	117.3	118.8	129.8	122.8	128.4	129.1	124.1	113.3	116.2	121.2	143.8	121.3	142.6	138.9	129.1	128.6	123.5	126.1	127.6	157.6	159.1	146.5	153.0	151.9	145.3	126.6	144.8	124.3	149.3	122.3	145.5	124.5	145.6	126.9
September. .	146.6	164.2	159.4	156.5	141.9	124.0	126.5	129.7	.....	.....	.....	.....	137.3	120.0	126.2	128.2	131.6	122.8	126.6	129.4	139.9	123.7	128.5	129.2	128.0	112.7	117.8	121.7	143.9	120.8	147.7	137.1	134.5	129.0	162.0	150.7	158.2	158.5	153.8	142.2	148.0	150.1	145.5	122.7	143.9	123.5	142.3	145.4	148.8	145.3	146.5	127.5
October. .	148.2	156.3	129.9	159.2	143.2	127.8	126.0	129.3	136.0	126.1	125.4	122.3	139.8	121.6	127.7	127.1	135.6	115.9	118.2	120.1	141.4	126.8	126.0	126.0	125.5	116.0	119.3	121.6	144.9	122.3	145.8	141.4	146.6	129.5	162.2	137.2	159.2	156.5	157.9	145.0	150.2	151.2	145.9	123.3	143.6	124.4	143.9	124.4	148.5	146.2	147.8	140.4
November....	147.2	154.9	159.6	158.3	142.6	125.6	128.3	131.4	135.4	126.1	122.7	123.8	132.6	123.5	126.6	127.3	136.9	116.5	117.6	129.2	140.5	126.1	126.7	130.0	124.7	116.7	127.7	121.9	145.8	126.1	142.3	129.9	140.8	159.9	161.6	156.2	156.6	157.5	159.4	144.2	140.4	151.1	146.2	126.6	144.2	123.6	150.7	144.9	149.0	146.6	146.6	141.1
December....	146.4	164.3	153.5	158.1	129.7	122.0	123.9	126.0	123.9	116.2	115.9	118.7	127.0	115.6	119.8	120.9	118.9	107.6	107.7	111.4	128.1	119.1	122.1	122.8	118.8	107.3	108.9	112.6	147.0	126.1	132.2	134.5	134.9	134.9	156.1	154.8	156.7	156.6	148.3	139.4	142.6	143.3	144.8	134.3	.....	.....	149.4	143.9	148.9	146.7	146.9	146.4



[FROM THE CITY ENGINEER'S REPORT TO  
THE STREET DEPARTMENT.]

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ALFORD-STREET SEA WALL.

A plan and specifications were made for repairing about 54 feet of the Alford-street sea wall, on the westerly side of the street on the Charlestown end, near the Malden bridge abutment.

The old wall was removed to the surface of the ground and the wall rebuilt, using the best of the old stone and some new granite blocks.

The work was done by H. J. White under his contract, dated June 15, 1906, at a cost of \$1,000, and was completed July 18, 1906.

BRIDGE CONNECTING SUMMER-STREET BRIDGE WITH  
CONGRESS-STREET BRIDGE.

A contract was made with George T. Rendle, November 15, 1906, for rebuilding about 64 feet of this bridge, which had fallen from excessive loading, and doing other work on the bridge.

The work was completed January 15, 1907, at a cost of \$1,763.61 for labor, piles and iron.

EAST BOSTON FERRIES.

*Coal Pocket.* — A contract was made with George Hayes, November 3, 1905, for removing the old coal shed and wharf at the East Boston landing of the North Ferry, and building a new wharf, a coal pocket and a small storehouse. After the contract was made the old shed was nearly filled with coal by the Ferry Division, and the work of tearing down the old shed was not begun until May 17, 1906, at which time most of the coal had been used. The contract work was completed November 8, except painting the coal pocket and building the storehouse. The painting was completed December 19. Coal was delivered in the new pocket the latter part of January.

*Ferry Piers, etc.* — Estimates were made of the cost of putting all the ferry piers in first-class condition, and for repairing the sea wall on the Boston side of the South Ferry.

*North Ferry, Boston Side.*—A contract was made with Lawler Bros., June 15, for repairing the north and middle piers. Fifty-three new piles were driven, 180 linear feet were replanked, many walling pieces and a few girders were renewed. The work was completed October 24, at a cost of \$4,014.96.

#### ASSESSMENT STREETS.

Working plans and specifications were prepared and forwarded to the Street Department for the construction of the following assessment streets:

*Arcadia park*, Ditson street to Arcadia street.  
*Aspinwall road*, Washington street to Talbot avenue.  
*Bakersfield street*, Stoughton street to Willis street.  
*Bradshaw street*, Charlotte street to Esmond street.  
*Clement avenue*, Meredith street to Stratford street.  
*Jersey street*, Brookline avenue to Audubon road.  
*Longfellow street*, Topliff street to Draper street.  
*Lorraine street*, Colberg avenue to Belgrade avenue.  
*Meredith street*, Kenneth street to Clement avenue.  
*Milwood street*, Adams street to Milton street.  
*Pomfret street*, Maple street to Corey street.  
*Primrose street*, Walter street to Fairview street.  
*Queensberry street*, Audubon road to Audubon road.  
*Rockledge street*, Lambert avenue to Thornton street.  
*Roseland street*, Dorchester avenue to Samoset street.  
*Rosemary street*, South street to land of Old Colony Railroad.

Surveys have been made, levels taken and working plans prepared for the following assessment streets:

*Boyden street*, Lauriat avenue to Callender street.  
*Claybourne street*, Dakota street to Bowdoin street.  
*Cottage street*, Maverick street to Gove street.  
*Dahlgren street*, Westville street to Corona street.  
*Davitt street*, Savin Hill avenue 247 feet northeasterly.  
*Everdean street*, Greenhill street to Preston street.  
*Fottler road*, Walk Hill street 267 feet northeasterly.  
*Frankfort street*, Maverick street to Gove street.  
*Hobson street*, Faneuil street to Hobart street.  
*Kilton street*, Harvard street to Park street.  
*Mallet street*, Florida street to Adams street.  
*Mapleton street*, Murdock street to Market street.  
*Marmion street*, Cornwall street 306 feet northeasterly.



*Oakridge street*, Codman street to Morton street.  
*Speedwell street*, Topliff street to Hamilton street.  
*Willowwood street*, Lauriat avenue to Norfolk street.

#### PLANS AND SPECIFICATIONS FOR REPAVING STREETS.

Preliminary surveys were made, working plans and specifications were prepared and forwarded to the Street Department for repaving the following streets :

*Albany street*, Northampton street to Eustis street.  
*Berkeley street* (easterly side), Boylston street to Providence street.  
*Berkeley street*, Tremont street to Columbus avenue.  
*Blue Hill avenue*, Dewey street to Savin street.  
*Blue Hill avenue*, Brunswick street to Devon street.  
*Brimmer street*, Chestnut street 180 feet southerly.  
*C street*, West First street to Fargo street.  
*Columbus avenue*, Cazenove street to Camden street.  
*Columbus avenue*, Camden street to Station street.  
*Congress street*, Fort Point channel to N. Y., N. H. & H. R.R.  
*Dacia street*, Dove street across Woodcliff street.  
*Essex street* (Chsn.), Rutherford avenue to Hancock square.  
*Eustis street*, at Albert Palmer school.  
\* *Evans street*, Milton avenue to Morton street.  
*Florence street*, Washington street to Harrison avenue.  
\* *Franklin street*, Oliver street to Broad street.  
*Garden-court street*, North square to Fleet street.  
*Hanover street*, Union street to Tileston street.  
*Hawley street*, Franklin street to Summer street.  
*Huntington avenue*, Dartmouth street to B. & A. R.R. bridge.  
*Joiner street*, Park street to Chelsea street.  
*K street*, East Fourth street to East Sixth street.  
*Lynn street*, Thacher street to Cooper street.  
\* *Main street* (Chsn.), B. & M. R.R. bridge to Somerville line.  
*Meridian street*, Maverick square to Central square.  
*Moon street*, North square to Fleet street.  
\* *Nelson street*, Norfolk street to Evans street.  
*North square*, North street to Moon street.  
*Palmer street*, at Albert Palmer school.  
*Park square*, Boylston street, across Eliot street.  
*Pleasant street* (Chsn.), Warren street to Main street.

*Prince street*, Garden-court street to Hanover street.

*Providence street*, Berkeley street to Clarendon street.

*Washington street*, Beach street to Milk street.

\* *Washington street* (Dor.), Euclid street to Ashmont street.

\* *Washington street* (Dor.), Ashmont street to Armandine street.

*Wilkes street*, Washington street to Bradford street.

*Woodcliff street*, Blue Hill avenue to Dacia street.

#### MISCELLANEOUS.

Preliminary surveys have been made and plans prepared for repaving the following streets :

*A street*, Richards street to Congress street.

*Fulton street*, Clinton street to Lewis street.

*Marlborough street*, Exeter street to Massachusetts avenue.

*Stillman street*, Salem street to North Margin street.

*Boston Common*. Grades were made for several artificial stone walks.

#### GRADING STREET RAILWAY TRACKS.

The necessary surveys have been made and grades for surface tracks have been determined in the following streets :

*Arlington avenue*.

*Bartlett street*, Washington street to car-house.

*Berkeley street*, Tremont street to Columbus avenue.

*Blue Hill avenue*, Dewey street to Savin street.

*Centre street*, Pond street to South street.

*Columbus avenue*, Cazenove street to Station street.

*Eagle street*, Shelby street to car-house.

*Eustis street*, at Albert Palmer school.

*Faneuil street*, Oak square to car-house.

*Hanover street*, Union street to Tileston street.

*Hawley street*, Franklin street to Summer street.

*Huntington avenue*, Dartmouth street to B. & A. R.R. bridge.

*Huntington avenue*, Francis street to Jamaica way.

*Main street* (Chsn.), B. & M. R.R. bridge to Somerville line.

*Massachusetts avenue*, Huntington avenue to Columbus avenue.

*Meridian street*, Maverick square to Central square.

*Oak square*, Washington street to Faneuil street.

*Park square*, Boylston street, across Eliot street.

*Roxbury street*, Linden Park street to Eliot square.

*Washington street*, Beach to Milk street.

*Washington street* (Rox.), Bartlett street to Guild street.

*Washington street* (Dor.), south of Kilton street to Bowdoin street.

*Washington street* (Dor.), Ashmont street to beyond Armandine street.

#### NEW YORK, NEW HAVEN & HARTFORD RAILROAD.

*C street*, track crossing near Fargo street.

*Congress street*, track crossing at end of street.

#### UNION FREIGHT RAILROAD.

*Atlantic avenue*, at State street.

Total length of single track, 10.5 miles.

Preliminary estimates have been made of the cost of repaving 10 streets and for constructing 81 streets.

## MISCELLANEOUS WORK AND CONSTRUCTION, 1906.

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### ATLANTIC-AVENUE EXTENSION BRIDGE.

The work done by Patrick McGovern under his contract dated July 29, 1905, for the flooring of the bridge was completed on August 27, with the exception of a small amount of work near the ends of the draw which cannot be done until the draw is in place. The total amount paid under this contract was \$48,509.78. In addition to this there was paid to the same contractor \$1,552.32 for work not connected with his contract. The flooring of the bridge was constructed as follows:

On the approach viaduct on the Boston side, on the span over the track of the Union Freight Railroad Company in the yard of the Boston Terminal Company, and on the short span next the abutment at the South Boston end of the bridge, arches of Portland cement concrete reinforced with sheets of expanded metal were laid upon the steel floor beams. On this concrete there is laid a waterproof course of alternate layers of roofing paper and pitch, there being four layers of paper and five of pitch; on this there is a layer of pitch concrete one to two inches thick for the protection of the paper from injury; the waterproofing is laid as a continuous sheet between the outer girders. On the Boston approach viaduct, which is paved with granite blocks, an additional layer of concrete is laid above the waterproofing; in the centre of the roadway where this upper layer of concrete will be disturbed if a street car track should be laid over the bridge, the concrete is laid in a trough made of  $\frac{3}{4}$ -inch boards so that this concrete can be removed without injury to the waterproofing. On the sidewalks the concrete is laid to a grade 4 inches below the finished grade.

On the above described portions of the bridge granite copings 24 inches by 18 inches in section were set on the outer lines of structure, and a granite curbstone set for a single sidewalk 10 feet in width. There is but one sidewalk on the bridge, that being on the westerly side.

The remaining spans of the bridge were covered with 6-inch plank on the roadway and 4-inch plank on the side-

walk, spiked to spiking timbers which were bolted to the steel floor-beams. Copper expansion joints were provided where required. On the wooden floors hard pine curb timbers were bolted on each side of the roadways, the latter being divided into two parts over the railroad by the centre trusses. On the curb timber there was fastened a cast-iron curb, back of which was a flooring of 2-inch tongued and grooved hard pine plank laid to grade. The sidewalk plank was laid 4 inches below finished grade. The roadways of all these spans were waterproofed in the manner before described; as the sidewalk is to have an asphalt covering no other waterproofing was provided for it; the waterproofing was carried up over the curb timbers, the side next the pavement being further protected by zinc flashing.

The Boston approach viaduct, the span next to the draw on the Boston side and both spans on the South Boston side were paved with granite blocks 6 inches deep, laid with pitch and pebble joints on a gravel bed 2 inches in depth for the roadways; the sidewalks are not yet paved.

The roadways of the remaining spans are paved with 4-inch yellow pine blocks treated by the creosotate process; these were laid on a sand bed 1 inch thick; the joints were filled with pitch and then the whole covered with a thin coating of sand.

The solid approach on the South Boston end was paved under the contract for flooring the bridge, and the square at the junction of Atlantic avenue, Dorchester avenue and Foundry street was repaved. The roadway was paved with the standard city pavement of granite blocks with pitch and pebble joints on a concrete base. The curb was of granite and the sidewalks paved with brick.

On November 24, 1905, a contract was made with Daniel J. Kiley for paving a portion of the Boston solid approach. This contract was assigned to Dennis Kiley. Work was begun on September 4 and completed on November 13, at a cost of \$3,026.19, not including the furnishing of the curbstone and paving blocks. The work done consisted of setting the curbstone for a length of 279 linear feet and laying the concrete base, furnishing the gravel bed and laying the blocks on about the same length of roadway.

The remainder of the curbstone and roadway to the junction of Kneeland street were constructed under the direction of the Street Department.

The paving blocks and curbstones were furnished by the Street Department for the whole work on the approaches to the bridge.

The work of building the wooden draw pier under the contract with Lawler Brothers, dated November 14, 1905, was completed on April 18 at a cost of \$6,035. The pier is 160 feet long on the channel face and 60 feet wide, and connects the draw pier of the Dorchester-avenue bridge with the draw fender of the railroad bridge; it is of oak piles in bents at right angles to the channel, the bents being 16 feet apart; the piles are capped with 7-inch by 14-inch hard pine girder caps, the stringers are of 6-inch by 12-inch hard pine spaced 3 feet 6 inches apart, and the floor is of 3-inch kyanized spruce; the piles are braced with rough oak girders and braces; on the channel face the piles are 4 feet apart, braced with oak spurshoes, have heavy caps on top, and have on the channel face 5 lines of 8-inch by 12-inch hard pine walings which are covered by a close planking of 4-inch hard pine, the planks being placed vertically. Frequent ring-bolts are provided.

The work being done by the James Russel Boiler Works Co., under its contract dated August 23, 1905, for furnishing and erecting railings on the bridge and its approaches, was completed on November 20, with the exception of the railing on the draw, at a cost of \$5,271.85.

Guard gates at the ends of the draw were built under a contract with P. J. Dinn & Co., dated April 3, 1906.

On January 30, 1906, a contract was made with the New Jersey Bridge Co. for the building of the draw. Work was begun at the bridge site early in October; at the present time the steel work is all in place and is being rivetted.

On September 10 a contract was made with the Otis Elevator Co. for furnishing a portion of the turning mechanism for the draw, and this work is now in progress.

#### BROOKLINE-STREET BRIDGE.

The construction of the Boston approach to this bridge was described in the last annual report. Early in the spring the James J. Coughlan Construction Co. completed the work under its contract dated June 3, 1905, the total cost being \$28,845.81.

The steel work for the bridge furnished by H. P. Converse & Co., under their contract dated November 3, 1905, was finished early in October at a cost of \$15,400. This work consists of four separate structures; one of these comprises the two spans over the Grand Junction branch of the Boston & Albany Railroad; three steel trestles extend across the bridge at an acute angle, resting upon pile and timber piers

built under another contract; these trestles are about 93 feet in length and are about 19 feet apart at right angles; they support 20-inch I beams, which carry the wooden floor of the bridge.

The building of the wooden pile and trestle work under the contract with W. H. Ellis, dated September 15, 1905, was completed on December 21, at a cost of \$57,588.

The old bridge and fender pier were entirely removed and a new bridge built between the Boston and Cambridge abutments, together with a new fender pier. The steel work required for the bridge was furnished under another contract, as before described. The approach to the bridge on the Cambridge side of the river was built entirely by the City of Cambridge.

The bridge is 60 feet wide and 708 feet long, not including the approaches. The bridge surface is divided as follows: there is a sidewalk 10 feet wide on the easterly or down stream side of the bridge; next to this is a roadway 25 feet wide, while the remaining 25 feet is reserved for the tracks of the Boston Elevated Railway Company, this latter space being separated from the roadway by a railing. There are three waterways or channels through the bridge. The central one is 40 feet in width and is in the main channel of the river. At short distances on each side of the main channel there is another channel, each being 31 feet in width; these are intended for small boats. There are similar channels through the railroad bridge nearby, the main channel having a draw over it, the others being without draws. The bridge is lighted by five electric arc lights.

The grade of the bridge at the centre is 44 feet above city base and the under side of the girders about grade 37. The Cambridge end of the bridge is at grade 32.70 and the Boston end 39.12 above city base.

The work of rebuilding this bridge and the railroad bridge just below it was so far advanced that the old channel was closed to navigation and the new channel opened on February 4.

Bents were built, generally 15 feet apart, of 10 oak piles each, with spurshores where required, braced with rough oak braces and girders and each bent capped with 6-inch by 12-inch hard pine double girder caps; upon these bents or piers trestles of hard pine timber were erected, the posts being capped with 6-inch by 14-inch double girder caps and braced both crosswise and lengthwise of the bridge; rider caps were used where necessary to make the floor of the proper grade. The trestle at the Cambridge end rests partly



on a concrete pier which was built in the rear of the old abutment. No abutment was built at this end, the filling being allowed to slope on the sides of the approach and under the bridge. The floor stringers are of hard pine and vary in size, the largest being 14 inches square, one of these being under each rail of the car track. The under floor, except on the sidewalk, is of 4-inch hard pine and the wearing surface is of 2-inch spruce. The sidewalk is covered with a single course of 2-inch hard pine. The railings are of hard pine planed on all sides and painted.

Fender guards were built on both sides of the 31-foot waterways and on the northerly side of the main channel for the full width of the bridge and with wings at each end. On the southerly side of the main channel a fender pier was built extending from the draw pier of the railroad bridge to a point 157 feet west of the highway bridge; this pier is 12 feet wide and on the channel side has oak piles 4 feet apart, about one-half of which have spurshores; the piles on the rear line were driven so as to make cross bents 16 feet apart; each rear pile has a spurshore and the bents are capped with 6-inch by 12-inch hard pine double girder caps and braced with oak girders and braces; the stringers are 4-inch by 12-inch hard pine, except the one on the front line, which is 12-inch by 12-inch; the covering is of 3-inch kyanized spruce with a 6-inch by 6-inch hard pine capsill on the front line. Ring bolts were set about 50 feet apart on this pier. The tops of all the fenders are at grade 16. The faces of the fenders on the main channel each have seven 6-inch by 8-inch oak wales bolted to the piles, while the fenders on the 31-foot channels have each six 8-inch by 12-inch hard pine wales, which are covered with 4-inch hard pine plank laid close and extending from the top of the fender to 2 feet below city base.

On March 6 a contract was made with Bernard Malone for filling the Boston approach in rear of the walls built in 1905; this work was finished on July 24, at a cost of \$2,432.30.

The work of erecting iron railings on the side walls of the Boston approach under the contract with P. J. Dimm & Co., dated July 21, 1905, was completed on June 29, at a cost of \$1,085.

On July 20 a contract was made with A. J. & G. H. McMurtry for surfacing the Boston approach; this work was completed on December 7, at a cost of \$1,835.20. The same contractor placed rip-rap on the shore slope in front of the Boston abutment at a cost of \$198.43.

The bridge was opened to team and foot travel on November 28, and the cars of the Boston Elevated Railway Company began running over the bridge on December 8.

#### CHELSEA BRIDGE, SOUTH.

Plans and specifications were made for repairing the draw pier and wharf at Chelsea Bridge, South.

On June 25, 1906, a contract was made with Lawler Brothers of Charlestown for doing the work. The work consisted of renewing most of the old stringers on the pier and wharf, repairing the fender guard, replanking the pier and wharf with new 3-inch kyanized spruce planking, placing some new oak ribbons along the waterway on both sides of the channel, and planking the face of the piles between the oak ribbons with hard pine plank. Six new oak piles were driven and fitted in place in the draw pier, and other miscellaneous repairs were made.

The total cost of the work was \$6,336.73, and was completed January 3, 1907.

#### COTTAGE-STREET FOOT-BRIDGE.

As mentioned in the last report, a contract had been made with the William S. Rendle Company for repairing this bridge. The work was completed February 26, 1906, at a cost for contract work of \$5,887.70.

#### DOVER-STREET BRIDGE.

As mentioned in the last annual report, plans and specifications were made for widening the draw-way of this bridge about 3 feet, making a full width of 40 feet.

A contract was made with the Cahill Construction Company on October 25, 1905, for doing the work, which consisted of removing the old face of the draw pier on the South Boston side, the two old water pipe siphons and the gas pipe siphon, driving a row of new oak piles along the face of the channelway, capping them with hard pine caps, splicing out the old cross caps, placing some new stringers and top planking on the draw pier near the new face, rebuilding part of the pier which had been occupied by the old water and gas pipes, and planking the face of the new piles along the waterway with 4-inch hard pine planking. The water way and pier, on the Boston side of the channelway, where the siphons were removed, were also repaired. The work was completed September 13, 1906, at a cost of \$7,318.50.

### DUDLEY-STREET GRADE CROSSING.

The abolishment of the grade crossing of the New England Railroad on Dudley street was decreed by the Superior Court on July 19, 1906. Work was begun soon after and is now in progress. The plan calls for the raising of the railroad at Dudley street 7.6 feet and the depression of the street 10 feet. Dudley street is widened slightly to provide room for a pier supporting the railroad bridge. The grade of Dudley street is changed for a distance of 350 feet westerly and 300 feet easterly from the centre line of the railroad. The grades of streets leading from Dudley street are changed to meet the new grade of the latter.

The grade of the railroad is changed for a distance of about 2,900 feet northerly and about 1,600 feet southerly from Dudley street. Changes are to be made in the railroad structures at the streets between Dudley street and Massachusetts avenue, but no material change is to be made in the streets themselves. The decree provides that all of the work shall be done by the New York, New Haven & Hartford Railroad Company, and that the cost shall be paid as follows: the New England Railroad Company, the New York, New Haven & Hartford Railroad Company, lessee, to pay 65 per cent.; the West End Street Railway Company, 15 per cent.; the Commonwealth of Massachusetts, 10 per cent.; and the City of Boston 10 per cent.

Dudley street was closed to team traffic on January 12; street car traffic has been temporarily deflected over a track laid a short distance to the north of Dudley street at the crossing.

### EAST BOSTON GRADE CROSSINGS.

The railroad company has finished its new roadbed, from Maverick street to the end of the work, north of Curtis street, and turned its traffic on to this section late in the summer.

Of the bridges being built by the Boston & Albany Railroad Company, Bennington-street bridge was finished on July 7, Curtis-street bridge on November 23, and Maverick-street bridge on January 24. The steel work for the Prescott and Porter street bridges has been erected, and they are ready for the flooring. The abutments for the Saratoga-street bridge are practically finished, with the exception of the parapet courses. These bridges are all of the same general type; the abutments are of concrete without reinforcement, and the superstructures each consist of two plate girders, supporting

steel floor-beams; the floors are of concrete arches, with asphalt wearing surfaces.

The railroad company has done a large amount of work in the construction of a system of drainage, and the building of retaining walls along the line of its new location.

The railroad company has also sub-graded for the city the following streets: Curtis street, with approaches on Chelsea street; Saratoga street, west of the railroad; Bennington street and Neptune road, with approaches on Orleans street; Prescott and Porter streets, between Bremen and Frankfort streets, with approaches from Orleans street, and Maverick street, between Chelsea and Frankfort streets, with the approaches on Bremen, Orleans and Everett streets.

On April 27 a contract was made with Coleman Brothers for surfacing Bennington street, Neptune road and Orleans street, between the two former streets where the grades of these streets had been changed. As the old tracks of the railroad could not be abandoned at the time, a temporary roadway was built on the part of Bennington street west of the railroad bridge; the remainder of the work was finished to the permanent lines and grades. The work was completed on July 14 at a cost of \$11,023.86; the streets were opened to travel on the same date, and Saratoga street, at the railroad crossing, was closed. A temporary bridge and track were built to carry the traffic of the street railway around the site of the bridge to be built on Saratoga street.

On August 7 a contract was made with James Doherty for the surfacing required on Chelsea and Curtis streets; this work has not been entirely completed, but was so nearly done that the streets were fully opened to travel on December 29.

On September 13 a contract was made with James Doherty for surfacing Maverick street and the approaches thereto on Bremen, Orleans and Everett streets; this work is not yet finished, but is so nearly done that all of the streets are open to travel except that part of Maverick street crossing the railroad property.

#### NORTHERN AVENUE AND SLEEPER STREET.

The City Engineer was directed by chapter 381 of the Acts of 1903 to construct Northern avenue from Atlantic avenue near Oliver street across Fort Point channel to the lands of the Commonwealth on South Boston flats, and to construct Sleeper street from Congress street to Northern avenue.

The principal work done up to the present time has been

in connection with the bridge across Fort Point channel. The work of building the sub-structure of the bridge was begun in September, 1905, under a contract with W. H. Ellis of Boston, and at the date of this report the abutment on the westerly side of the channel, the masonry piers in the channel and the foundation for the draw pier, with the necessary fenders, are nearly completed.

On January 28, 1907, a contract was made with the New England Structural Company of Boston for the steel super-structure of the draw span and of the fixed spans.

Bids have been received for building the sea-wall at the head of Dock No. 1, South Boston flats, but at this date the contract has not been signed.

The portion of Sleeper street, between Congress street and the first cross track of the New York, New Haven & Hartford Railroad, has been paved by the Street Department and opened to public travel during the year.

#### RAINSFORD ISLAND.

Plans were made in 1905 by this department for repairing the wharf on this island and for building three bulkheads. A contract was made with W. L. Miller by the Children's Institutions Department for repairing the wharf and building the easterly bulkhead; the work was begun May 21, 1906, and completed July 24 at a cost of \$5,752.28.

The work on the wharf consisted in driving about 80 new oak piles, replacing most of the old stringers with new ones, replanking the entire wharf, except that part recently built near the coal shed, with 3-inch kyanized spruce plank and adding some oak bracing on the piles.

A new bulkhead, 355 feet long, was built on the easterly side of the island adjoining the shore end of the wharf, using oak piles, hard pine caps and spruce planking.

The other bulkheads were built during the summer by W. L. Miller, one, 116 feet long, being on the westerly side of the island around the ice house, the other, 130 feet long, being on the northerly side of the island.

Respectfully submitted,

WILLIAM JACKSON,  
*City Engineer.*

## JOHN EUGENE CHENEY.

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Member American Society of Civil Engineers.

Member Boston Society of Civil Engineers.

Born at Lowell, Massachusetts, February 12, 1847. Educated at the Public Schools and Lawrence Scientific School of Harvard University.

Entered City Engineer's Office, 1874.

Assistant City Engineer, 1885-1906.

Died at Boston, September 25, 1906.





## CITY ENGINEERS,

1850-1907.

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E. H. CHESBROUGH, M. Am. Soc. C. E.,

November 18, 1850, to October, 1855.

(Died August 18, 1886.)

JAMES SLADE,

October 1, 1855, to April 1, 1863.

(Died August 25, 1882.)

N. HENRY CRAFTS,

April 1, 1863, to November 25, 1872.

JOSEPH P. DAVIS, M. Am. Soc. C. E.,

November 25, 1872, to March 20, 1880.

(Resigned March 20, 1880.)

HENRY M. WIGHTMAN, M. Am. Soc. C. E.,

April 5, 1880, to April 3, 1885.

(Died April 3, 1885.)

WILLIAM JACKSON, M. Am. Soc. C. E.,

April 21, 1885, to the present time.

APPENDICES.

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APPENDIX A. — Table showing the width of openings for vessels in all bridges provided with draws.

APPENDIX B. — Table of accident and other plans made for the Law Department from February 1, 1906, to February 1, 1907.

APPENDIX C. — Table of surveys, plans, and profiles made by the Surveying Division of the Engineering Department from February 1, 1906, to February 1, 1907.

APPENDIX D. — Lists of streets where frontages have been obtained for the Sewer Division of the Street Department, for Sewer Assessments, from February 1, 1906, to February 1, 1907.

APPENDIX E. — Engineering Department property schedule.

APPENDIX F. — Elevations referred to Boston City base.

APPENDIX G. — Engineering Department Annual Reports, 1867-1906.

APPENDIX H. — Engineering Department, Revised Ordinances.

APPENDIX I. — Meridian Line.

APPENDIX J. — Grades of Streets.

APPENDIX K. — Widths of Streets.



APPENDIX A. — *Concluded.*

NAME OF BRIDGES.	LOCATION.	NUMBER OF OPENINGS.	WIDTH.	
			Feet.	In.
Dorchester-ave.....	Over Fort Point channel.....	1	41	4
Dover-st.....	".....	1	40	0
Grand Junction R.R.....	Brighton to Cambridge.....	1	39	0
".....	East Boston to Chelsea.....	1	49	0
Granite.....	Dorchester to Milton.....	1	36	0
Harvard (Boston side).....	Boston to Cambridge.....	2	36	6
" (Cambridge side).....	".....		36	10
L-st.....	Over Reserved channel, South Boston.....	1	39	8
Malden.....	Charlestown to Everett.....	1	50	0
Meridian-st. (East Boston side).....	East Boston to Chelsea.....	2	59	2
" (Chelsea side).....	".....		59	0
Mt. Washington-ave. (Boston side).....	Over Fort Point channel.....	2	42	2
" (South Boston side).....	".....		50	0
Neponset.....	Dorchester to Quincy.....	1	36	0
N. Y., N. H. & H. R.R.....	Over Fort Point channel.....	1	41	11
" " " Y-connection.....	".....	1	42	0
" " " Old Colony Division.....	Dorchester to Quincy.....	1	51	0
North Beacon-st.....	Brighton to Watertown.....	1	30	0
North Harvard-st.....	Brighton to Cambridge.....	1	36	0
Northern-ave. (Boston side).....	Over Fort Point channel.....	2	75	0
" (South Boston side).....	".....		75	0
Prison Point.....	Charlestown to Cambridge.....	1	35	8
Summer-st.....	Over Fort Point channel.....	1	50	0
Warren.....	Boston to Charlestown.....	1	36	0
Western-ave.....	Brighton to Cambridge.....	1	36	0
".....	Brighton to Watertown.....	1	35	10

## APPENDIX B.

TABLE OF ACCIDENT AND OTHER PLANS MADE FOR THE  
LAW DEPARTMENT FROM FEBRUARY 1, 1906, TO FEBRU-  
ARY 1, 1907.

## BOSTON PROPER.

- Ashburton place.* Plan of street at corner Bowdoin street.  
*Brimmer street.* Plan of street near Back street.  
*Bromfield street.* Plan of street in front of No. 24.  
*Cambridge street.* Plan of street near Lynde street.  
*Castle square.* Plan of street at corner of Chandler street.  
*Charles street.* Plan of street at entrance to Public Garden.  
*Church street.* Plan of street in front of No. 37.  
*Clarendon street.* Plan of street in front of No. 31.  
*Columbus avenue.* Plan of street at Dartmouth street.  
*Congress street.* Plan of street at Water street.  
*Dover street.* Plan of street at corner of Washington street.  
*East Lenox street.* Plan of street in front of No. 76.  
*Eliot street.* Plan of street at corner of Warrenton street.  
*Eliot street.* Plan of street in front of No. 219.  
*Eliot street.* Plan of street in front of No. 211.  
*Franklin street.* Plan of street in front of No. 113.  
*Garland street.* Plan of street in front of No. 6.  
*Hanover street.* Plan of street in front of No. 204.  
*La Grange street.* Plan of street in front of No. 28.  
*Massachusetts avenue.* Plan of street in front of No. 541.  
*Middlesex street.* Plan of street in front of No. 46.  
*North street.* Plan of street at Sun-court street.  
*Northfield street.* Plan of street in front of No. 14.  
*Oxford street.* Plan of street in front of No. 16.  
*Pine street.* Plan of street in front of No. 10.  
*Rollins street.* Plan of street in front of No. 19.  
*Salem street.* Plan of street in front of No. 95.  
*Shawmut avenue.* Plan of street at Castle street.  
*Staniford street.* Plan of street in front of No. 34.  
*Temple place.* Plan of street in front of No. 25.  
*Tremont street.* Plan of street in front of No. 147.  
*Tremont street.* Plan of street in front of No. 337.  
*Traverse street.* Plan of street in front of Portland street.  
*Washington street.* Plan of street at Bromfield street.  
*Washington street.* Plan of street at West street.  
*Washington street.* Plan of street at Norfolk place.

*Washington street.* Plan of street in front of No. 671.  
*Washington street.* Plan of street at Garland street.  
*West Concord street.* Plan of street in front of No. 129.  
*West Rutland square.* Plan of street in front of No. 91.  
*Winter street.* Plan of street in front of No. 27.

## SOUTH BOSTON.

*Broadway.* Plan of street in front of No. 498.  
*Dorchester avenue.* Plan of street in front of No. 64.  
*Dorchester avenue.* Plan of street in front of No. 324.  
*East Broadway.* Plan of street in front of No. 578.  
*East Ninth street.* Plan of street in front of No. 274.  
*Thomas park.* Plan of street in front of No. 50.

## EAST BOSTON.

*Decatur street.* Plan of street in front of No. 13.  
*Lewis street.* Plan of street at Marginal street.

## CHARLESTOWN.

*Bunker Hill street.* Plan of street in front of No. 76.  
*Malden bridge.* Plan of roadway, at draw.

## ROXBURY.

*Blue Hill avenue.* Plan of street at Julian street.  
*Dudley street.* Plan of street opposite Vine street.  
*Gerard street.* Plan of street near Massachusetts avenue.  
*Hugh O'Brien school.* Plan of master's room.  
*Shawmut avenue.* Plan of street at Williams street.  
*St. Alphonsus street.* Plan of street near Tremont street.  
*Tremont street.* Plan of street in front of No. 1280.  
*Westminster street.* Plan of street in front of No. 94.  
*Warren street.* Plan of street at Rockville park.  
*Washington street.* Plan of street in front of No. 2750.

## DORCHESTER.

*Dorchester avenue.* Plan of street in front of No. 837A.  
*Erie street.* Plan of street at Greenwood street.  
*Magnolia street.* Plan of street in front of No. 32.  
*Oakman street.* Plan of street at Taylor street.  
*River street.* Plan of street in front of No. 16.  
*Shoreham street.* Plan of street near Columbia road.  
*Washington street.* Plan of street at Algonquin street.

## WEST ROXBURY.

*Gordon street.* Plan of street in front of No. 4.

## APPENDIX C.

TABLE OF SURVEYS, PLANS AND PROFILES MADE BY THE  
SURVEYING DIVISION OF THE ENGINEERING DEPART-  
MENT FROM FEBRUARY 1, 1906, TO FEBRUARY 1, 1907.

## BOSTON PROPER.

(North of Massachusetts avenue.)

- Appleton street*, southeasterly corner Berkeley street. Plan of land taken for Franklin Institute.
- Arch street*, easterly corner Franklin street. Plan and profile for proposed grade.
- Beacon street*, Bowdoin street to Hancock avenue, front of State House. Plan and profile for proposed grade.
- Beacon street*, Hereford street to Gloucester street. Plan and profile for proposed grade.
- Boston Common*, West street to Park square. Plan and profile for proposed grade.
- Boylston street*, Nos. 336 to 370. Plan and profile for proposed grade.
- Boylston street*, No. 402. Plan and profile for proposed grade.
- Boylston street*, at Warren Chambers. Plan and profile for proposed grade.
- Boylston street*, easterly corner Exeter street. Plan and profile for proposed grade.
- Brimmer street*, Beacon street to Mt. Vernon street. Plan and profile for proposed grade.
- Cambria street*, at Dalton street. Plan and profile for proposed grade.
- Causeway street*, northwesterly, Beverly street to Charlestown bridge. Plan and profile for proposed grade.
- Charlestown Bridge*, westerly corner Causeway street. Plan and profile for proposed grade.
- City Hospital*, at Ward T. Plan showing levels in and around the building.
- Congress street*, southeasterly corner Milk street. Plan and profile for proposed grade.
- Cross street*, Endicott street to Salem street. Plan and profile for proposed grade.



- Dalton street*, at Cambria street. Plan and profile for proposed grade.
- Devonshire street*, northerly corner Summer street. Plan and profile for proposed grade.
- Devonshire street*, northwesterly corner Franklin street. Plan and profile for proposed grade.
- Exeter street*, easterly corner Boylston street. Plan and profile for proposed grade.
- Falmouth street*, St. Paul street to Norway street. Plan and profile for proposed grade.
- Fort Hill square*. Plan showing paths.
- Franklin street*, northerly side, Arch street to Devonshire street. Plan and profile for proposed grade.
- Grove street*, Myrtle street to Revere street. Plan and profile for proposed grade.
- Hawkins street*. Outline plan of old school lot and school lot in rear on Chardon court.
- Jackson place*, off Winter street. Plan and profile for laying out and established grade and plan for assessment.
- James street*, No. 12. Plan showing encroachment of steps and profile of steps.
- Joy street*, Beacon street to Cambridge street. Plan showing front steps, etc.
- Massachusetts avenue*, Commonwealth avenue to Newbury street. Plan and profile for proposed grade.
- Milk street*, opposite Post Office square. Plan and profile for proposed grade.
- Mt. Vernon avenue*, Mt. Vernon street to Pinckney street. Plan and profile for laying out and established grade and plan for assessment.
- Myrtle street*, Grove street to Revere street. Plan and profile for proposed grade.
- Norway street*, St. Paul street to Falmouth street. Plan and profile for proposed grade.
- Oak street*, Harrison avenue to Albany street. Plan and profile for proposed grade.
- Pearl street*, southwesterly corner Milk street. Plan and profile for proposed grade.
- Providence street*, northerly corner Berkeley street. Plan and profile for proposed grade.
- Revere street*, West Cedar street to Grove street. Plan and profile for proposed grade.
- Rose street*, Harrison avenue to Albany street. Plan and profile for laying out and established grade and plan for assessment.
- St. Paul street*. Plan and profile for proposed grade.

- School street*, front of City Hall. Plan showing levels.
- Summer street*, westerly corner Devonshire street. Plan and profile for proposed grade.
- Tremont street*, southeasterly side, Eliot street to Hollis street. Plan and profile for proposed grade.
- Washington street North*, Nos. 126 to 132. Plan and profile for proposed grade.
- Washington street*, northwesterly side, Eliot street to Hollis street. Plan and profile for proposed grade.
- Washington street*, westerly corner West Canton street. Plan and profile for proposed grade.
- West Canton street*, westerly corner Washington street. Plan and profile for proposed grade.
- Winchester street*, Edgerly place to Ferdinand street. Plan and profile for proposed grade.

## SOUTH BOSTON.

- Acadia street*, East First street to East Second street. Plan and profile for laying out and established grade.
- Acadia street*, East First street to East Second street. Plan showing estates for assessment.
- C street*, Mt. Washington avenue to West First street. Plan for sidewalk assessment.
- C street*, West Third street to West Broadway. Survey to determine line of street.
- D street*, West Eighth street to Old Colony avenue. Plan and profile of revised grade.
- Dorchester avenue*, west side, opposite Abbot street, through to Boston street. Plan of buildings and estates.
- Dorchester street*, West Second street to West Broadway. Plan of buildings and estates showing proposed widening.
- Dorchester street*, Athens street to West Broadway. Plan of proposed widening.
- E street*, West First street to Cypher street. Plan showing estates for assessment.
- East Seventh street*, K street to L street. Profile of edgestone and revised grade.
- Granite street*, West First street to West Second street. Plan and profile of revised grade.
- Hart place*. Plan and profile for laying out and established grade.
- Hart place*. Plan showing estates for assessment.
- Lawrence court*, corner West Third street. Plan of estate.
- National street*, Dorchester street to Thomas park. Profile of edgestone and revised grade.

*Norcross place.* Plan and profile for laying out and established grade.

*Norcross place.* Plan showing estates for assessment.

*Summer street,* Dorchester avenue to L-street bridge. Plan and profile showing laying out and established grade by the Superior Court.

*Vale street,* No. 11 to Dorchester street. Plan for sidewalk assessment.

*West Ninth street,* easterly from D street. Plan and profile of revised grade.

### EAST BOSTON.

(Including Breed's Island.)

*Bremen street,* Beck street to Curtis street. Plan for discontinuance.

*Brooks street,* east side, Bennington street to Saratoga street. Plan and profile for proposed grade.

*Brooks street,* Trenton street to White street. Plan and profile for proposed grade.

*Central square,* Border street to Liverpool street. Plan showing cross sections.

*Lewis street,* Sumner street to South Ferry. Plan and profile for proposed grade.

*Monmouth street,* Meridian street to White street. Plan and profile for proposed grade.

*Princeton street,* north side, Prescott street to No. 314. Plan and profile for proposed grade.

*Putnam street,* East Eagle street to White street. Plan and profile for proposed grade.

*White street,* Brooks street to Putnam street. Plan and profile for proposed grade.

### CHARLESTOWN.

*Arrow street,* Lynde street to Rutherford avenue. Plan and profile for proposed grade.

*Belmont street,* Bunker Hill street to Medford street. Plan and profile for proposed grade.

*Chelsea street,* No. 30 to Joiner street. Plan and profile for proposed grade.

*Elm street,* No. 57 to Hancock street. Plan and profile for proposed grade.

*Hancock street,* No. 12 to Elm street. Plan and profile for proposed grade.

*Hunter street,* Bunker Hill street to Vine street. Plan and profile for proposed grade.

- Ludlow street*, Eden street to Main street. Plan and profile for proposed grade.
- Lynde street*, Arrow street to Austin street. Plan and profile for proposed grade.
- Lyndeboro street*, Essex street to Middlesex street. Plan and profile for proposed grade.
- Medford street*, Bunker Hill street across Short street. Plan and profile for proposed grade.
- Miller street*, Lawrence street to Rutherford avenue. Plan and profile for proposed grade.
- Moulton street*, Medford street to the water. Plan to determine street line.
- Park street*, south corner of Joiner street. Plan and profile for proposed grade.
- School street*, Bunker Hill street to Bartlett street. Plan and profile for proposed grade.

## ROXBURY.

(South of Massachusetts avenue.)

- Alley*, Queensberry street to Kilmarnock street. Plan and profile for proposed grade.
- Avenue Louis Pasteur*, Longwood avenue to Riverway. Plan and profile for laying out and established grade.
- Benton street*, Tremont street to Columbus avenue. Plan and profile for laying out and established grade and plan for assessment.
- Brookledge street*, Humboldt avenue to Elm Hill avenue. Plan and profile for laying out and established grade.
- Evergreen street*. Plan for assessment.
- Fairweather street*, Reed street to Harrison avenue. Plan and profile for laying out and established grade.
- Fenwood road*. Plan and profile for laying out and established grade.
- Gainsboro street*, easterly corner St. Botolph street. Plan and profile for proposed grade.
- Hammett street*. Plan for sidewalk assessment.
- Howland street*, Elm Hill avenue to Humboldt avenue. Plan and profile for proposed grade.
- Lambert avenue*, Cedar street to Guild street. Plan and profile for proposed grade.
- Lansdowne street*, Ipswich street to Brookline avenue. Plan and profile for laying out and established grade.
- Larkin street*, Hampden street to Adams street. Plan and profile for laying out and established grade.
- Louise park*. Plan for assessment.

*Magazine street*, Massachusetts avenue to Southampton street.

Plan and profile for laying out and established grade.

*Maiden lane*. Plan and profile for laying out and established grade.

*Marbury terrace*, off Amory street. Plan and profile for laying out and established grade.

*Mountfort street*, St. Mary's street to Audubon road. Plan and profile for laying out and established grade and plan for assessment.

*Munroe street*, Harold street to and across the hill. Plan and profile for proposed grade.

*Newbury street*, Massachusetts avenue to Charlesgate East. Plan and profile for proposed grade.

*Park View street*. Plan and profile for laying out and established grade.

*Pequot street*, Calumet street to Wait street. Plan and profile for laying out and established grade.

*Rockledge street*, Lambert avenue to Thornton street. Plan and profile for laying out and established grade.

*Roxbury street*, Centre street to Gardner street. Plan for proposed widening.

*Ruthven street*, Harold street to Walnut avenue. Plan for sidewalk assessment.

*St. Alphonsus street*, Tremont street to Calumet street. Plan for sidewalk assessment.

*St. Botolph street*, easterly corner Gainsboro street. Plan and profile for proposed grade.

*Seaver street*, easterly corner Walnut avenue. Plan and profile for widening and established grade.

*South Huntington avenue*, Heath street to Huntington avenue. Plan for assessment.

*Walnut avenue*, easterly corner Seaver street. Plan and profile for widening.

*Warren street*, Elm Hill park to Blue Hill avenue. Plan and profile for proposed grade.

*Washington street*, corner Dimock street. Plan of ledge lot.

*Washington street*, Atherton street to Beethoven street. Plan of engine house lot.

#### DORCHESTER.

*Arcadia park*, Arcadia street to Draper street. Plan and profile for laying out and established grade.

*Arcadia park*, Arcadia street to Draper street. Plan showing estates for assessment.

*Auckland street*, Belfort street to Elton street. Plan showing estate fronts.

- Aspinwall road*, Talbot avenue to Washington street. Plan and profile for laying out and established grade.
- Aspinwall road*, Talbot avenue to Washington street. Plan showing estates for assessment.
- Bakersfield street*, Stoughton street to Willis street. Plan and profile for laying out and established grade.
- Bakersfield street*, Stoughton street to Willis street. Plan showing estates for assessment.
- Belfort street*, Dorchester avenue to Sagamore street. Plan showing estate fronts.
- Bellevue street*, Hamilton street to Kane street. Plan and profile for laying out and established grade.
- Bellevue street*, Hamilton street to Kane street. Plan showing estates for assessment.
- Beaumont street*, Adams street to Carruth street. Plan and profile for laying out and established grade.
- Boyden street*, Callender street to Lauriat avenue. Plan and profile for laying out and established grade.
- Boyden street*, Callender street to Lauriat avenue. Plan showing estates for assessment.
- Bradshaw street*, Bicknell street to Esmond street. Plan and profile for laying out and established grade.
- Bradshaw street*, Bicknell street to Esmond street. Plan showing estates for assessment.
- Bruce street*, Dracut street to Wrentham street. Plan and profile for laying out and established grade.
- Bruce street*, Dracut street to Wrentham street. Plan showing estates for assessment.
- Brunswick street*, at Columbia road. Profile for revised grade.
- Claybourne street*, Bowdoin street to Dakota street. Plan and profile for laying out and established grade.
- Claybourne street*, Bowdoin street to Dakota street. Plan showing estates for assessment.
- Corona street*, Bowdoin street to Toppliff street. Plan and profile for laying out and established grade.
- Corona street*, Bowdoin street to Toppliff street. Plan showing estates for assessment.
- Cottageside*, East Cottage street to Willis street. Plan and profile for laying out and established grade.
- Dahlgren street*, Corona street to Westville street. Plan and profile for laying out and established grade and plan showing estates for assessment.
- Dakota street*, Geneva avenue to Greenbrier street. Plan and profile for laying out and established grade and plan showing estates for assessment.

- Elton street*, Auckland street to Dorchester avenue. Plan showing estate fronts.
- Endleigh street*, off Savin Hill avenue. Plan and profile for laying out and established grade.
- Endleigh street*, off Savin Hill avenue. Plan showing estates for assessment.
- Everdean street*, Greenhill street to Preston street. Plan and profile for laying out and established grade.
- Everdean street*, Greenhill street to Preston street. Plan showing estates for assessment.
- Fottler road*, Tileston avenue to Walk Hill street. Plan and profile for laying out and established grade.
- Fottler road*, Tileston avenue to Walk Hill street. Plan showing estates for assessment.
- Frederika street*, Adams street to Minot street. Profile for revising grade.
- Geneva avenue*, Bowdoin street to Columbia road. Additions to plan and profile for laying out and established grade.
- Geneva avenue*, Bowdoin street to Columbia road. Plan showing estates for assessment.
- Glide street*, Marsh street to Minot street. Plan and profile for laying out and established grade.
- Glide street*, Marsh street to Minot street. Plan showing estates for assessment.
- Grace street*, Roslin street to Walton street. Plan and profile for laying out and established grade.
- Greenmount street*, Dorchester avenue to Pleasant street. Plan and profile for revising grade.
- Half Moon street*, Hooper avenue to Magnolia street. Plan and profile for laying out and established grade.
- Harlem street*, Glenway street to Greenwood street. Plan and profile for laying out and established grade.
- Harlem street*, Glenway street to Greenwood street. Plan showing estates for assessment.
- Hendry street*, Coleman street to Clarkson street. Plan and profile for laying out and established grade.
- Hendry street*, Coleman street to Clarkson street. Plan showing estates for assessment.
- Humphreys street*, at Dudley street. Plan and profile for revising grade.
- Kerwin street*, Bernard street to Talbot avenue. Plan and profile for laying out and established grade.
- Kerwin street*, Bernard street to Talbot avenue. Plan showing estates for assessment.
- Kilton street*, Carmen street to Washington street. Plan and profile for laying out and established grade.



- Kilton street*, Harvard street to Park street. Additions to plan and profile for laying out and established grade.
- Kilton street*, Harvard street to Park street. Plan showing estates for assessment.
- Kingsdale street*, Talbot avenue to Wales street. Plan and profile for laying out and established grade.
- Kingsdale street*, at Wales street. Plan showing estates for assessment.
- Larchmont street*, Greenbrier street to Waldeck street. Additions to plan and profile for laying out and established grade.
- Larchmont street*, Greenbrier street to Waldeck street. Plan showing estates for assessment.
- Longfellow street*, Draper street to Topliff street. Additions to plan and profile for laying out and established grade.
- Longfellow street*, Draper street to Topliff street. Plan showing estates for assessment.
- Mallet street*, Adams street to Florida street. Additions to plan and profile for laying out and established grade.
- Mascoma street*, Lawrence avenue to Quincy street. Additions to plan and profile for laying out and established grade.
- Mascoma street*, Lawrence avenue to Quincy street. Plan showing estates for assessment.
- May street*, Glenway street to Greenwood street. Plan and profile for laying out and established grade.
- Melbourne street*, Centre street to Welles avenue. Additions to plan and profile for laying out and established grade.
- Millwood street*, Adams street to Milton street. Additions to plan and profile for laying out and established grade.
- Millwood street*, Adams street to Milton street. Plan showing estates for assessment.
- Minot street*, Adams street to Carruth street. Additions to plan and profile for laying out and established grade.
- Mt. Bowdoin terrace*, Eldon street to near Bullard street. Plan and profile for laying out and established grade.
- Nelson street*, Norfolk street to Selden street. Plan for sidewalk assessment.
- Norwood street*, Freeport street to Norwood street. Additions to plan and profile for laying out and established grade.
- Norwood street*, from Tolman street about 450 feet west. Plan showing estates for assessment.
- Oakridge street*, Codman street to River street. Plan and profile for laying out and established grade.
- Oakridge street*, Codman street to River street. Plan showing estates for assessment.

- Preston street*, Freeport street to Mill street. Profile for revising grade.
- River street*, near Fremont street. Plan of land purchased by the city for a Consumptives' Home.
- Roseland street*, Dorchester avenue to Samoset street. Plan and profile for laying out and established grade.
- Roseland street*, Dorchester avenue to Samoset street. Plan showing estates for assessment.
- Sagamore street*, Romsey street to Sudan street. Plan and profile for laying out and established grade.
- Samoset street*, Centre street to Welles avenue. Additions to plan and profile for laying out and established grade.
- Samoset street*, Centre street to Welles avenue. Plan showing estate for assessment.
- Saxon street*, Romsey street to Savin Hill avenue. Additions to plan and profile for laying out and established grade.
- Saxon street*, Romsey street to Savin Hill avenue. Plan showing estates for assessment.
- School street*, Athelwold street to Washington street. Plan for sidewalk assessment.
- Speedwell street*, Hamilton street to Topliff street. Plan and profile for laying out and established grade.
- Speedwell street*, Hamilton street to Topliff street. Plan showing estates for assessment.
- Stonehurst street*, Hamilton street to Topliff street. Additions to plan and profile for laying out and established grade.
- Stonehurst street*, Hamilton street to Topliff street. Plan showing estates for assessment.
- Sudan street*, Dorchester avenue to Sydney street. Plan and profile for laying out and established grade.
- Sudan street*, Dorchester avenue to Sydney street. Plan showing estates for assessment.
- Vaughan street*, Blue Hill avenue to Harvard street. Additions to plan and profile for laying out and established grade.
- Vaughan street*, Blue Hill avenue to Harvard street. Plan showing estates for assessment.
- Washington street*, Bowdoin street to Eldon street. Plan for sidewalk assessment.
- Washington street*, Ashmont street to Euclid street. Plan for sidewalk assessment.
- Washington street*, Armandine street to Ashmont street. Plan for sidewalk assessment.

*Welles avenue*, Argyle street to Dorchester avenue. Additions to plan and profile for laying out and established grade.

*Wellington Hill street*, Blue Hill avenue to Ormond street and Ponemah street. Profile to fix grade.

*Wendover street*, Dudley street to Humphreys street. Additions to plan and profile for laying out and establishing grade.

*Wentworth street*, Armandine street to Norfolk street. Additions to plan and profile for laying out and established grade.

*Westmoreland street*, Adams street to Berkshire street. Plan and profile for laying out and established grade.

*Willowwood street*, Lauriat avenue to Norfolk street. Additions to plan and profile for laying out and established grade.

*Willowwood street*, Lauriat avenue to Norfolk street. Plan showing estates for assessment.

*York street*, Glenway street to Greenwood street. Plan and profile for laying out and established grade.

#### WEST ROXBURY.

*Aldrich street*, Belgrade avenue to Beech street. Plan and profile for laying out and established grade.

*Anson street*, South street to New York, New Haven & Hartford Railroad. Plan and profile for laying out and established grade.

*Arundel street*, Walter street to Centre street. Plan and profile for laying out and established grade.

*Asticon road*, Walk Hill street to South street. Plan and profile for laying out and established grade.

*Auburn street*, Washington street to Walworth street. Plan and profile for laying out and established grade.

*Belgrade avenue*, Malcolm street to Beech street. Plan and profile for laying out and established grade.

*Birch street*, Penfield street to Dudley avenue. Plan and profile for laying out and established grade.

*Blakemore street*, Hyde Park avenue to railroad bridge. Plan for sidewalk assessment.

*Carolina avenue*, South street to Call street. Profile to fix grade.

*Centre street*, Holbrook street to Arborway. Profile to fix grade.

*Clement avenue*, Meredith street to Stratford street. Plan showing estates for assessment.

- Dalrymple street*, Egleston street to Georgiana street. Plan and profile for laying out and established grade.
- Farquhar street*, South street to Centre street. Plan and profile for laying out and established grade.
- Fletcher street*, South street to Centre street. Plan and profile for laying out and established grade.
- Florence street*, Poplar street to Ashland street. Plan for sidewalk assessment.
- Georgiana street*, Dalrymple street to Boylston street. Plan and profile for laying out and established grade.
- Harris avenue*, Centre street to Alveston street. Profile to fix grade.
- Havey street*, Dudley avenue to Alder street. Plan and profile for laying out and established grade.
- Lorraine street*. Plan showing estates for assessment.
- Marmion street*. Plan showing estates for assessment.
- Moss Hill road*, extension for about 970 feet. Plan and profile for laying out and established grade.
- Penfield street*. Plan for sidewalk assessment.
- Perkins street*, Prince street to Brookline line. Plan and profile for relocation and established grade.
- Pomfret street*. Plan showing estates for assessment.
- Primrose street*. Plan showing estates for assessment.
- Rosemary street*. Plan showing estates for assessment.
- St. Rose street*, extension to Arborway. Plan and profile for laying out and established grade.
- Walk Hill street*, Hyde Park avenue to Wenham street. Plan for sidewalk assessment.
- Walworth street*, South street to Belgrade avenue. Plan and profile showing proposed laying out to a width of 33 feet.
- Walworth street*, South street to Belgrade avenue. Plan and profile showing proposed laying out to a width of 50 feet.
- Walworth street*, Belgrade avenue to Washington street. Plan and profile showing laying out and established grade.
- Walworth street*, South street to Belgrade avenue. Plan showing estates for assessment.
- Wilmot street*. Plan showing estates for assessment.
- Woodland road*, extension to Pond street. Plan and profile for laying out and established grade.

## BRIGHTON.

- Cambridge street*, at Mansfield street and Lincoln street. Plan of land owned by City of Boston.
- Harriet street*, Parsons street, westerly. Plan and profile for laying out and established grade.

- Harriet street.* Plan showing estates for assessment.
- Hobart street,* at Ranelegh road. Plan of land taken for addition to school lot.
- Hobson street.* Plan showing estates for assessment.
- Kinross road,* Commonwealth avenue to Lanark road. Plan for proposed widening.
- Mapleton street,* Murdock street to Market street. Plan and profile for laying out and established grade.
- Mapleton street,* Murdock street to Market street. Plan showing estates for assessment.
- Parsons street,* Faneuil street to North Beacon street. Plan and profile for relocation and established grade.
- Parsons street,* Faneuil street to North Beacon street. Plan showing estates for assessment.
- Reservoir road,* Beacon street to Boston & Albany railroad. Plan and profile showing relocation as decreed by the Superior Court.
- Royal street,* Cambridge street to Hooker street. Plan for sidewalk assessment.

## BOSTON HARBOR.

- Gallop's Island.* Plan of cemetery.

## APPENDIX D.

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LIST OF STREETS WHERE ESTATE MEASUREMENTS HAVE  
BEEN OBTAINED FOR THE SEWER DEPARTMENT FOR  
SEWER ASSESSMENTS, FROM FEBRUARY 1, 1906, TO  
FEBRUARY 1, 1907.

## BOSTON PROPER.

(North of Massachusetts avenue.)

*Fulton street.* Between Cross street and Ferry street.

*Harrison avenue.* Between Knapp street and Beach street.

## SOUTH BOSTON.

*Champney street.* Columbia road to Old Colony avenue.

## EAST BOSTON.

*Frankfort street.* Neptune road to Swift street.

## CHARLESTOWN.

*Decatur street.* Bainbridge street to Bunker Hill street.

*Moulton street.* Bunker Hill street to Vine street.

*Rutherford avenue.* Middlesex street to Tibbets Town way.

*Tufts street.* Bunker Hill street to Princeton street.

## ROXBURY.

(South of Massachusetts avenue.)

*Beech Glen street.* Between Fort avenue and Highland street.

*Bower street.* Between Humboldt avenue and Walnut avenue.

*Cherokee street.* Near Hillside street.

*Hammond street.* Between Sussex street and Westminster street.

*Harleston street.* Between Calumet street and Parker Hill avenue.

*Hartwell street.* Between Georgia street and Cheney street.

- Newbury street.* Between Massachusetts avenue and Charles Gate East.  
*Parker Hill avenue.* Between Harleston street and Calumet street.  
*Ruggles street.* Between Cabot street and Westminster street.  
*Sherman street.* Between Dale street and Rockland street.

## DORCHESTER.

- Hollingsworth street.* From Oakland street.  
*Roslin street.* Harley street to Ocean street.

## WEST ROXBURY.

- Addington road.* Weld street to Westover street.  
*Allen street.* Rowe street to Brown avenue.  
*Ashland street.* Rowe street to Brown avenue.  
*Baker street.* Gardner street to Baker place.  
*Belgrade avenue.* Aldrich street to Anawan avenue.  
*Bellevue street.* Robin street to four hundred twenty-five feet northwest.  
*Brookfield street.* South Fairview street to South street.  
*Brook street.* Orange street to Walworth street.  
*Cheshire street.* Green street to end.  
*Dunbar street.* Westover street to Willow street.  
*Fairview street.* Millwood street to Proctor street.  
*Garden street.* Maple street to Corey street.  
*Havey street.* Dudley avenue to two hundred feet southwest.  
*Hyde Park avenue.* Larch place to Ashland street.  
*Jewett street.* Mt. Hope street to Neponset avenue.  
*La Grange street.* Landseer street to Linnet street.  
*Larch place.* Hyde Park avenue to end.  
*Linden street.* Belgrade avenue to Penfield street.  
*Montclair avenue.* Fletcher street to one hundred feet northeast.  
*Morton street.* Harvard street to Canterbury street.  
*Morton street.* Washington street to two hundred and fifty feet east.  
*Mt. Hope street.* Stony brook to five hundred feet northwest.  
*Mt. Hope street.* Lawn street to Stony brook.  
*Neponset avenue.* Hyde Park avenue to Stony brook.  
*Penfield street.* Amherst street to Linden street.  
*Penfield street.* Linden street to Metcalf street.



*Robin street.* Bellevue street to Park street.  
*Rowe street.* Allen street to Ashland street.  
*South street.* Edgemont street to Guernsey street.  
*Willow street.* Dunbar street to Weld street.

## BRIGHTON.

*Allston place.* Woodstock avenue to Corey road.  
*Champney street.* Washington street to Stratton street.  
*Corey road.* Summit avenue to Westbourne terrace.  
*Kingsley street.* Rena street to North Harvard street.

## APPENDIX E.

## ENGINEERING DEPARTMENT PROPERTY SCHEDULE, MAIN OFFICE.

1 horse.	15,071 plans engineering works, loose.
2 carriages.	14 volumes plans engineering works, bound.
1 automobile.	Photographs of engineering works.
1 sleigh.	1 microscope.
2 harnesses.	1 mercurial barometer.
3 robes.	1 aneroid barometer.
Instruments for drawing.	1 holstetric barometer.
Instruments for surveying, as fol- lows :	1 set hydrometers.
2 Temple transits.	1 hygrometer.
7 Buff & Berger transits.	1 pair field glasses.
1 Berger & Sons transit.	3 typewriters.
1 P. & R. Wittstock transit.	2 dynamometers.
8 Gurley transits.	1 pantagraph.
1 Keuffel & Esser level.	3 calculating machines.
2 Temple levels.	1 volt meter.
4 Buff & Berger levels.	1 comptometer.
7 Gurley levels.	2 thermophones.
13 Boston rods.	2 cameras.
4 New York rods.	3 planimeters.
10 Troy rods.	1 Bourdon pressure gauge.
4 Philadelphia rods.	1 Burroughs arithmometer.
Apparatus for blue printing.	1 Steiger calculating machine.
Cases for plans and books.	
Reference library, 1,492 volumes.	

## SURVEYING DIVISION.

2 Temple transits.	1 Moody level.
1 Moody transit.	18 Boston rods.
4 Buff & Berger transits.	7 pipe rods.
3 Berger & Sons transits.	32,669 plans.
1 Buff & Buff transit.	3,747 lithographed maps.
1 Stackpole transit.	1 pantagraph.
1 Troughton & Sims transit.	3 planimeters.
1 P. & R. Wittstock transit.	1 Federal blue printing machine, No. 10.
7 Buff & Berger levels.	

## APPENDIX F.

Elevations referred to Boston City base. \* (The City base is 0.64 feet below mean low tide.)

Feet.	
0.00	City base.
15.66	Highest tide, April 16, 1851.
15.45	Coping old dry dock, Charlestown Navy Yard, at left of entrance.
15.11	Coping old dry dock, Charlestown Navy Yard, new bench, over crowfoot.
12.24	Greatest elevation of high tide, per United States Tide Tables, January 14, 15, 1907; $(11.6 + .64) = 12.24$ .
8.24	Least elevation of high tide, per United States Tide Tables, February 22, March 23, September 2, 3, October 1, 1907; $(7.6 + .64) = 8.24$ .
2.44	Greatest elevation of low tide, per United States Tide Tables, October 29, 1907; $(1.8 + .64) = 2.44$ .
—1.46	Least elevation of low tide, per United States Tide Tables, May 29, 1907; $(-2.1 + .64) = -1.46$ .
*0.64	Mean low tide.
5.00	Piles cut off for building.
10.00	Water works (old base) approximate tide-marsh level.
0.38	South Boston flats base (State).
9.82	South Boston base, formerly in use, but now abandoned.
—100.00	Metropolitan Sewerage base.
—100.00	Charles River Basin Commission base.
—100.00	Boston Transit Commission base.
—4.98	Cambridge City base.
0.64	Somerville City base.
0.60	Harbor and Land Commission base.

\* Mean low water January, 1903. Computed from tidal observations taken during the year 1902, at the Charlestown Navy Yard, is 0.79 feet above Boston City base.

John R. Freeman in Report on Charles River Dam, 1903, page 570.

Navy Yard base above Boston base is	0.58
Mean High Water above Boston base	10.63
Mean Low Water above Boston base	9.79
Mean range of tide	9.84
Mean Sea Level above Boston base	5.71

Definition of Boston City base: Boston City base is a datum plane 15 feet above the average height of the sill of the Charlestown Dry Dock. (Page 552, Report of the Commission on Charles River Dam, 1903.)

The following tidal records may be of interest:

### *High Tides.*

[Plane of reference, Boston City Base.]

Feet.	Date.	Where Taken.	By Whom.
14.12	Jan. 23, 1898	Mt. Washington-avenue bridge.....	A. B. Corthell.
14.94	Nov. 27, 1898	Average of 15 observations.	
13.72	Nov. 8, 1900	Malden bridge.....	F. P. Spalding.
13.95	May 20, 1901	Malden bridge.....	F. P. Spalding.
14.19	Nov. 25, 1901	Average of 10 observations.	
13.60	Dec. 14, 1902	North Ferry, City Proper.....	J. H. Edmonds.
13.00	Feb. 17, 1903	North Ferry, City Proper.....	J. H. Edmonds.
13.40	Jan. 14, 1904	North Ferry, City Proper.....	J. H. Edmonds.
13.00	Feb. 1, 1904	North Ferry, City Proper.....	J. H. Edmonds.
13.10	Mar. 1, 1904	Mt. Washington-avenue bridge.....	Boston Terminal Co.
13.10	Mar. 3, 1904	Mt. Washington-avenue bridge.....	Boston Terminal Co.
13.20	Jan. 4, 1905	North Ferry, City Proper.....	J. H. Edmonds.
14.83	Jan. 25, 1905	Average of 34 observations.	
13.10	Mar. 21, 1905	North Ferry, City Proper .....	J. H. Edmonds.
13.00	Feb. 9, 1906	Malden bridge.....	F. L. Killion.
13.15	June 6, 1906	Malden bridge.....	H. H. McNerlin.
13.10	June 7, 1906	Neponset bridge.....	M. F. Toomey.
13.17	June 7, 1906	North Ferry, City Proper.....	J. H. Edmonds.
13.17	June 7, 1906	Malden bridge.....	H. H. McNerlin.
13.30	Nov. 15, 1906	Malden bridge.....	Tide mark.
13.30	Nov. 15, 1906	North Ferry, City Proper.....	J. H. Edmonds.
13.50	Nov. 15, 1906	Neponset bridge.....	M. F. Toomey.
13.05	Nov. 16, 1906	Neponset bridge.....	M. F. Toomey.
13.12	Nov. 16, 1906	Malden bridge.....	H. A. Crowley.

### *Low Tides.*

5.60	Nov. 27, 1898	Deer Island, Met. sewer station.....	Self-recording gage.
-3.50	Feb. 1, 1900	Deer Island, Met. sewer station.....	Self-recording gage.
-2.94	Feb. 3, 1900	South Boston station, Edison Electric..	D. A. Harrington.
-3.00	Feb. 4, 1904	Deer Island, Met. sewer station.....	Self-recording gage.
-2.70	Mar. 23, 1905	Deer Island, Met. sewer station.....	Self-recording gage.

## APPENDIX G.

## ENGINEERING DEPARTMENT ANNUAL REPORTS, 1867-1906.

No. of Reports.	For the Year.	Year Published and No. City Document.	No. of Reports.	For the Year.	Year Published and No. City Document.
First.....	*1867	1868-22	Twenty-third.....	1889	1890-39
Second and Third .....	1868-69	1870-14	Twenty-fourth .....	*1890	Executive Department Report, Document 1, Part I. 1891.
Fourth.....	1870	1871-15			1892-11
Fifth and Sixth .....	*1871-72	1873-23			1893-10
Seventh.....	*1873	1874-20			1894-10
Eighth.....	1874	1875-19	Twenty-fifth.....	1891	1895-10
Ninth.....	1875	1876-24	Twenty-sixth.....	1892	1896-10
Tenth.....	*1876	1877-15	Twenty-seventh.....	1893	1897-10
Eleventh.....	*1877	1878-20	Twenty-eighth .....	1894	
Twelfth.....	*1878	1879-22	Twenty-ninth.....	1895	
Thirteenth.....	*1879	1880-33	Thirtieth .....	1896	
Fourteenth.....	*1880	1881-25	Thirty-first.....	1897	
Fifteenth.....	1881	1882-52	Thirty-second .....	1898	
Sixteenth.....	1882	1883-53	Thirty-third.....	1899	
Seventeenth.....	*1883	1884-55	Thirty-fourth.....	1900	
Eighteenth.....	*1884	1885-54	Thirty-fifth.....	1901	
Nineteenth.....	*1885	1886-41	Thirty-sixth.....	1902	
Twentieth.....	*1886	1887-38	Thirty-seventh .....	1903	
Twenty-first.....	*1887	1888-39	Thirty-eighth .....	1904	
Special Report.....	1888	1888-117	Thirty-ninth .....	1905	
Twenty-second .....	1888	1889-38	Fortieth .....	1906	

\* Out of Print.

## APPENDIX H.

## (REVISED ORDINANCES, 1898, CHAPTER 16.) ENGINEERING DEPARTMENT.

SECTION 1. The Engineering Department shall be under the charge of the City Engineer, who shall be consulted on all matters relating to public improvements of every kind in respect to which the advice of a civil engineer or architect would be of service; shall, unless otherwise specifically provided, take charge of the construction of all public works of the city which properly come under the direction of a civil engineer; shall make such surveys, plans, estimates, statements, and descriptions, and take such levels and prepare such specifications and contracts as the mayor, the board of aldermen, the common council, any committee of the city council or of either branch thereof, the board of street commissioners, or any officer in charge of a department, may need in the discharge of its duties; shall, upon being notified by the superintendent of streets,\* supervise all repairs on the bridges of the city used as highways which affect the safety of the structures, and shall, when required by the mayor or any officer in charge of a department, measure the work done by contract for the city, and certify to the results of such measurement. Said engineer shall have the custody of all surveys and plans relating to the laying out, locating anew, altering, widening and grading of streets; and his office shall be deemed to be the office of the surveyor of highways.

SECT. 2. Said engineer shall, in his annual report, include a report upon the safety and completeness of all ponds, basins and reservoirs under the charge of the water department, and of all bridges within the city limits used as highways.

(Stat. 1870, Chap. 337—Stat. 1895, Chap. 449, par. 21.)

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\*Superintendent of Bridges.

## APPENDIX I.

## MERIDIAN LINE.

In 1870 an act was passed by the Massachusetts Legislature requiring each land surveyor in the State at least once in every year to adjust and verify his compass by the meridian line established in the county wherein his surveys were to be made.

A meridian was marked by stone monuments, and a book of record kept by a custodian designated by the County Commissioners.

The law compelling surveyors to test their compasses annually was modified in 1875, so that surveyors who did not use the compass in turning angles were relieved from the penalty attaching to the violation of the original act.

The meridian posts for the County of Suffolk were placed on the southerly portion of the "Parade Ground" on Boston Common. They are granite posts, three in number, placed 200 feet apart, are eighteen inches square at the base, one foot square at the top, and eight feet long, being firmly set in a bed of concrete with their tops originally just below the surface of the ground.

A stone curb was placed even with the surface of the ground over the top of each post, with a metallic composition cover.

The surface of that part of the Common where the posts are set was raised several feet in 1897, the posts being protected by building a brick manhole around each stone, the posts being accessible by the removal of the manhole cover.

As the cover and cap of the manholes are made of iron it is now necessary to set up the compass in the production of the line marked by the monument to avoid local attraction. The point selected has been 290 feet north of the northerly stone.

The following table gives the number of tests for each year with the average readings:

YEAR.	Number of Readings.	Average of Readings West of North.	YEAR.	Number of Readings.	Average of Readings West of North.
1871.....	9	10-53-46	1889.....	-	
1872.....	8	11-09-47	1890.....	7	11-39-56
1873.....	3	11-07-53	1891.....	4	11-49-30
1874.....	3	11-11-40	1892.....	-	
1875.....	3	10-58-33	1893.....	1	12-32-20
1876.....	2	11-13-00	1894.....	-	
1877.....	8	11-12-35	1895.....	-	
1878.....	13	11-28-56	1896.....	-	
1879.....	4	11-35-15	1897.....	8	12-04-37
1880.....	7	11-34-53	1898.....	6	12-34-34
1881.....	3	11-28-23	1899.....	-	
1882.....	5	11-36-18	1900.....	8	12-33-45
1883.....	5	11-42-04	1901.....	-	
1884.....	6	11-46-13	1902.....	13	12-44-44
1885.....	8	11-43-12	1903.....	8	12-43-42
1886.....	4	11-39-58	1904.....	4	12-48-45
1887.....	14	11-51-54	1905.....	12	12-56-42
1888.....	3	11-40-57	1906.....	6	13-19-20



## APPENDIX J.

## GRADES OF BOSTON STREETS, 1906.

	Per cent.
C—State street, opposite Exchange Building . . . . .	about 2.00
C—State street, Washington to Devonshire, north side . . . . .	4.60
C—Devonshire street, Adams square to State street . . . . .	2.90
B—Warren avenue, Charlestown, City square to railroad . . . . .	2.80
C—Washington street, across Adams square, from corner Brattle street to corner Dock square . . . . .	4.00
B—Beacon street, from Somerset to Tremont street:	
From Somerset street, 125 ft. . . . .	6.60
Average for whole length . . . . .	6.60
F—Beacon street, from Joy to Spruce street, 695 ft. . . . .	5.70
C—Cornhill, from Court street to Franklin avenue, 270 ft., average . . . . .	4.00
F—Garden street . . . . .	15.00
F—Irving street . . . . .	15.00
F—Park street, from Beacon to Tremont street, 144 ft. from Beacon . . . . .	9.30
325 ft. . . . .	4.80
C—School street, from Tremont to Washington street, 100 ft. . . . .	5.20
100 ft. . . . .	4.40
350 ft. . . . .	3.10
A—Tremont street, from Winter to Hamilton place, 150 ft. . . . .	4.20
A—From Winter, toward Temple place, 180 ft. . . . .	2.50
C—Washington street, from Court street to Cornhill . . . . .	3.00
D—Washington street, from Harvard place, 160 ft. southerly . . . . .	2.30
D—Washington street, from Franklin street, 190 ft. southerly . . . . .	1.30
D—Washington street, from West street, 170 ft. southerly . . . . .	1.50
D—Washington street, from Essex street, 205 ft. northerly . . . . .	1.30

*Milk Street.*

C—First 100 feet east of Washington . . . . .	4.67
C—Second “ “ “ “ . . . . .	4.48
C—Third “ “ “ “ . . . . .	3.65
C—Fourth “ “ “ “ . . . . .	3.14
C—Fifth “ “ “ “ . . . . .	3.00

*Pearl Street.*

C—First 100 feet south of Franklin . . . . .	3.23
C—Second “ “ “ “ . . . . .	2.92
C—Third “ “ “ “ . . . . .	2.60
C—Fourth “ “ “ “ . . . . .	1.63
C—Sixth “ “ “ “ . . . . .	3.43
C—Seventh “ “ “ “ . . . . .	3.90
C—Eighth “ “ “ “ . . . . .	4.80
C—Remaining distance to Atlantic avenue (36.6 feet) . . . . .	4.80

A—Asphalt.  
C—Granite blocks, concrete base.  
F—Macadam.

B—Granite blocks on gravel.  
D—Wooden blocks.

*Boylston Street.*

										Per cent.
B—First	100 feet west of Washington	.	.	.	.	.	.	.	.	2.61
B—Second	" " " "	.	.	.	.	.	.	.	.	2.87
B—Third	" " " "	.	.	.	.	.	.	.	.	2.58
D—From Carver street (246 feet) east		.	.	.	.	.	.	.	.	2.93
D—From Park square (35 feet) east		.	.	.	.	.	.	.	.	4.33
A—First	100 feet east of Arlington	.	.	.	.	.	.	.	.	2.34
A—Second	" " " "	.	.	.	.	.	.	.	.	1.33

*South Street.*

C—First	100 feet south of Summer	.	.	.	.	.	.	.	.	0.74
C—Second	" " " "	.	.	.	.	.	.	.	.	2.10
C—Third	" " " "	.	.	.	.	.	.	.	.	2.05
C—Fourth	" " " "	.	.	.	.	.	.	.	.	2.26
C—Fifth	" " " "	.	.	.	.	.	.	.	.	1.95

*Congress Street.*

C—First	100 feet north of Exchange place	.	.	.	.	.	.	.	.	2.39
C—Second	" " " "	.	.	.	.	.	.	.	.	2.30
C—First	" " south of Franklin	.	.	.	.	.	.	.	.	1.09
C—Second	" " " "	.	.	.	.	.	.	.	.	2.36
C—Third	" " " "	.	.	.	.	.	.	.	.	2.21
C—Fourth	" " " "	.	.	.	.	.	.	.	.	2.20
C—Sixth	" " " "	.	.	.	.	.	.	.	.	2.37
C—Seventh	" " " "	.	.	.	.	.	.	.	.	4.24
C—Eighth	" " " "	.	.	.	.	.	.	.	.	3.45
C—Remaining distance to Atlantic avenue (15 feet)		.	.	.	.	.	.	.	.	2.96

*Exchange Street.*

C—First	100 feet north of State	.	.	.	.	.	.	.	.	0.98
C—Second	" " " "	.	.	.	.	.	.	.	.	2.46
C—Third	" " " "	.	.	.	.	.	.	.	.	3.39

APPROACHES TO BRIDGE OVER B. & A. R.R., ON BEACON STREET AND  
BROOKLINE AVENUE.*Beacon Street.*

F—First	100 feet west of bridge	.	.	.	.	.	.	.	.	1.64
F—Second	" " " "	.	.	.	.	.	.	.	.	2.64
F—Third	" " " "	.	.	.	.	.	.	.	.	2.77
F—Fourth	" " " "	.	.	.	.	.	.	.	.	2.53
F—Fifth	" " " "	.	.	.	.	.	.	.	.	2.08
F—Sixth	" " " "	.	.	.	.	.	.	.	.	1.95
F—Seventh	" " " "	.	.	.	.	.	.	.	.	1.33
F—Remaining 32.5 feet to foot of approach		.	.	.	.	.	.	.	.	0.92
F—Length of approach, 732.5 feet.		.	.	.	.	.	.	.	.	
F—Average gradient		.	.	.	.	.	.	.	.	2.08

F—First	100 feet east of bridge	.	.	.	.	.	.	.	.	0.90
F—Second	" " " "	.	.	.	.	.	.	.	.	1.53
F—Third	" " " "	.	.	.	.	.	.	.	.	1.71
F—Fourth	" " " "	.	.	.	.	.	.	.	.	1.71
F—Fifth	" " " "	.	.	.	.	.	.	.	.	1.71
F—Sixth	" " " "	.	.	.	.	.	.	.	.	1.71
F—Seventh	" " " "	.	.	.	.	.	.	.	.	1.71
F—Eighth	" " " "	.	.	.	.	.	.	.	.	1.53
F—Ninth	" " " "	.	.	.	.	.	.	.	.	0.68
F—Length of approach, 750 feet.		.	.	.	.	.	.	.	.	
F—Average gradient		.	.	.	.	.	.	.	.	1.51

A—Asphalt.  
C—Granite blocks, concrete base.  
F—Macadam.

B—Granite blocks on gravel.  
D—Wooden blocks.

*Brookline Avenue.*

														Per cent
F—First	100 feet southwest of bridge	.	.	.	.	.	.	.	.	.	.	.	.	3.06
F—Second	" "	"	"	.	.	.	.	.	.	.	.	.	.	3.06
F—Third	" "	"	"	.	.	.	.	.	.	.	.	.	.	3.06
F—Fourth	" "	"	"	.	.	.	.	.	.	.	.	.	.	2.90
F—Fifth	" "	"	"	.	.	.	.	.	.	.	.	.	.	2.25
F—Sixth	" "	"	"	.	.	.	.	.	.	.	.	.	.	1.50
F—Seventh	" "	"	"	.	.	.	.	.	.	.	.	.	.	0.75
F—Length of approach,	700 feet.													
F—Average gradient	.	.	.	.	.	.	.	.	.	.	.	.	.	2.36

---

F—First	100 feet northwest of bridge	.	.	.	.	.	.	.	.	.	.	.	.	3.47
F—Second	" "	"	"	.	.	.	.	.	.	.	.	.	.	3.69
F—Third	" "	"	"	.	.	.	.	.	.	.	.	.	.	3.23
F—Fourth	" "	"	"	.	.	.	.	.	.	.	.	.	.	2.10
F—Remaining 74 feet to foot of approach	.	.	.	.	.	.	.	.	.	.	.	.	.	1.19
F—Length of approach,	474 feet.													
F—Average gradient	.	.	.	.	.	.	.	.	.	.	.	.	.	2.77

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F—Macadam.

## APPENDIX K.

## WIDTHS OF BOSTON STREETS, 1906.

	Roadway width.	Total width.
Winter street . . . . .	19.5	36.0
North street, between Union street and Merchants row . . . . .	19.0	31.0
Exchange street . . . . .	15.5	25.0
State street, opposite Exchange Building . . . . .	38.0	63.0
Court street, between Ames and Sears Buildings . . . . .	24.9	41.7
Washington street, between Cornhill and Court street . . . . .	23.5-28.0	41.5-45.0
Washington street, corner of Summer street (north) . . . . .	40.7	60.0
Washington street corner of Summer street (south) . . . . .	32.5	49.5
Washington street, north side of Hanover street . . . . .	40.0	60.0
Portland street, near Causeway street . . . . .	34.3	50.0
Canal street, near Causeway street . . . . .	50.0	75.0
Haverhill street, near Causeway street . . . . .	32.2	49.0
Beverly street, near Causeway street . . . . .	36.0	50.0
Washington street North, near Causeway street . . . . .	68.0	92.0
Washington street North, near Medford street . . . . .	68.0	92.0
Kilby street, near State street . . . . .	25.2	39.3
Columbus avenue, between Berkeley street and R. R. bridge . . . . .	54.0	80.0
Columbus avenue, between R. R. bridge and Dartmouth street . . . . .	54.0	80.0
Albany, at Dover . . . . .	54.0	80.0
Arlington, at the Public Garden . . . . .	50.0	80.0
Atlantic avenue, at Broad . . . . .	78.3	100.0
Atlantic avenue, at Commercial wharf . . . . .	78.3	100.0
Atlantic avenue, near Commercial wharf . . . . .	78.3	100.0
Beacon, at Clarendon . . . . .	47.9	72.0
Beacon, at Brimmer . . . . .	61.0	89.0
Beacon, at River . . . . .	66.8	93.0
Berkeley, at Stanhope . . . . .	54.5	80.0
Battery, near North Ferry . . . . .	45.0	65.0
Blackstone, near south side North . . . . .	45.5	61.5
Boylston, at M. I. T. . . . .	49.5	78.5
Broad, near Central . . . . .	49.5	70.0
Canal, near Market street . . . . .	50.0	75.0
Central, near Atlantic avenue . . . . .	48.3	63.5
Charles, at the Common . . . . .	52.0	80.0
Commercial, at Cross . . . . .	48.5	67.7
Court, between Brattle and Hanover . . . . .	62.0-38.0	89.0-62.0
Commercial, at Hanover . . . . .	60.0	80.0
Dartmouth, at Commonwealth avenue . . . . .	70.0	100.0
Eastern avenue, near South Ferry . . . . .	54.2	70.0
Atlantic avenue, at Essex . . . . .	70.0	100.0
Leverett, near Charles . . . . .	46.0	62.0
Lincoln, at Beach . . . . .	44.8	64.5
Massachusetts avenue, at Commonwealth avenue . . . . .	62.9	90.0
Mercantile . . . . .	46.0	66.0
Milk, at Post Office . . . . .	41.0-46.0	60.0-65.0
South Market, at north side Commercial . . . . .	76.6	101.0
North Market, at Commercial . . . . .	44.0	64.3
State, at State-street Block . . . . .	66.5	86.0
Tremont, at West Newton . . . . .	70.0	100.0
Washington, at Worcester . . . . .	80.0	107.0

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